GRUNDIG SERVICE MANUAL

LIVE CAM

Ⓓ Btx * 32700 #

Service Manual

LC 600 C

Sach-Nr./Part No.
72010-524.25

Zusätzlich erforderliche Unterlagen für den Komplettservice:

Additionally required Service Manuals for the Complete Service:

Service Manual

Sicherheit
Safety

Sach-Nr./Part No.
72010-800.00

Service Manual

DL-Mechanik

Sach-Nr./Part No.
72010-519.60

Service Manual

NA 96C

Sach-Nr./Part No.
72010-519.55

LC 600 C

14x
GRUNDIG
AE
LC 600 C
CAM

LC 600 C (75.8627-1000 / G.MF 7000)

VHS C
625

Änderungen vorbehalten
Subject to alteration

Printed in Germany/Japan
VK 21/1 0496

Service Manual Sach-Nr.
Service Manual Part No. 72010-524.25

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Sach-Nummer 72010-800.00, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!

The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010-800.00, as well as the respective national deviations.

Inhaltsverzeichnis

Seite

Allgemeiner Teil .... 0-2...0-6
Meßgeräte 0-2
Sicherheitsausgangsprüfung 0-3
Technische Daten 0-3
Servicemittel 0-4
Service Kit "TATSUJIN" 0-5

Explosionszeichnungen und Ersatzteilliste .... 0-7...0-12
Laufwerk (1) 0-7
Laufwerk (2) 0-7
Laufwerk (3) 0-8
Optik 0-8
Gehäuse 0-9
Ersatzteilliste 0-10

Service Manual
NV-RX1 (LC 600 C)

Abgleich Elektrisch
NV-RX1 (LC 600 C)

Table of Contents

Page

General .... 0-2...0-6
Test Equipment 0-2
Safety Check-Out 0-3
Technical Data 0-3
Service Jigs and Tools 0-4
Service Kit "TATSUJIN" 0-5

Exploded Views and List of Spare Parts .... 0-7...0-12
VTR Mechanism Section (1) 0-7
VTR Mechanism Section (2) 0-7
VTR Mechanism Section (3) 0-8
Camera Lens Section 0-8
Frame & Casing Parts Section 0-9
List of Spare Parts 0-10

Service Manual
NV-RX1 (LC 600 C)

Adjustment Procedures (E.V.R.)
NV-RX1 (LC 600 C)

Allgemeiner Teil

Meßgeräte

Zweikanaloszilloskop
Digitalmultimeter
Tongenerator
Frequenzzähler
Vektorskop
Regeltrenntrafo
Millivoltmeter
Stabilisiertes Netzgerät
Farbgenerator

Beachten Sie bitte unser Meßtechnik-Programm, das Sie unter folgender Adresse erhalten:

Grundig electronics GmbH
Würzburger Str. 150
D-90766 Fürth/Bay.
Tel. 0911/703-0
Telefax 0911/703-4479

General

Test Equipment

Dual channel oscilloscope
Digital multimeter
AF generator
Frequency counter
Vectorscope
Variable isolating transformer
Millivoltmeter
Stabilized power supply
Colour generator

Please note our Catalog "Test and Measuring Equipment" obtainable from:

Grundig electronics GmbH
Würzburger Str. 150
D-90766 Fürth/Bay.
Tel. 0911/703-0
Telefax 0911/703-4479

Sicherheitsausgangsprüfung

Nachdem Sie die Reparatur beendet haben, überprüfen Sie folgende Punkte, bevor Sie das Gerät an den Kunden zurückgeben:

1. Überprüfen Sie den Bereich Ihrer Reparatur auf fehlende oder schlechte Lötstellen. Kontrollieren Sie die ganze Platinenoberfläche auf Zinnspritzer und Kurzschlüsse.
2. Überprüfen Sie die Platinenverbindungen, und stellen Sie sicher, daß keine Leitungen eingequetscht werden oder Hochlast-Widerstände berühren.
3. Achten Sie auf unerlaubte Ersatzteile, insbesondere Transistoren, die bei früheren Reparaturen eingebaut wurden. Weisen Sie den Kunden darauf hin und empfehlen Sie den Austausch.
4. Achten Sie auf Teile, die zwar noch funktionieren, aber offensichtliche Abnutzungserscheinungen zeigen. Weisen Sie den Kunden darauf hin und empfehlen Sie den Austausch.

Technische Daten

Camera

Aufnahmelement:	$^{1}/_{4}$" CCD Halbleiter-Chip
Auflösung:	320 000 Bildpunkte
Mindestbeleuchtung:	0,5 Lux (Low Light),
Zoombereich:	14-fach Motor-Zoom
Brennweite:	3,9...54,6mm
Lichtstärke (Optik):	1 : 1,4
Auto-Fokus-System:	Digital-KI-Autofocus
Filtergewindedurchmesser:	43mm

Video

Aufnahmesystem:	4 rotierende Köpfe, Schrägspurverfahren, PAL 1 rotierender Löschkopf
Bandformat:	VHS-C Videocassetten
Bandgeschwindigkeit:	23,39mm/s

Audio

Aufzeichnungsverfahren:	1 stationärer Kopf (Normal-Mono)
Frequenzgang:	80...8000Hz
Mikrofon:	Elektret-Kondensator-Mikrofon

Anschlußmöglichkeiten

Videoausgangsbuchse:	Cinchbuchse, $1V_{SS}$, 75Ω, unsymmetrisch, Sync. negativ
Audioausgangsbuchse:	Cinchbuchse, -6dB (bei Lastimpedanz von 47kΩ)
Edit-Buchse:	5-pol. zum Anschluß an VS20

Betriebsspannung

Akkubetrieb:	4,8V
Netzteilbetrieb:	6,0V

Leistungsaufnahme

Aufnahmebetrieb (mit Monitor):	ca. 6W

Allgemeines

Gewicht:	ca. 750g (ohne Akkusatz)
Sucher:	0,5" Suchermonitor (schwarz/weiß)
Arbeitstemperatur:	0°C ... 40°C

Safety Check-out

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particulary transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

Technical Data

Camera

Image device:	$^{1}/_{4}$" CCD Charge Coupled Device
Definition:	320 000 Pixels
Minimum illumination:	0.5 Lux (Low Light),
Zoom range:	14 fold motor zoom
Focus length:	3.9...54.6mm
Luminous intensity (Optic):	1 : 1.4
Auto focus system:	Digital AI auto focus
Filter thread diameter:	43mm

Video

Video recording system:	4 Rotating heads, helical scanning FM system, PAL 1 rotating erase head
Tape format:	VHS-C cassette tape
Tape speed:	23.39mm/s

Audio

Audio recording system:	1 Stationary head (normal mono)
Frequency response:	80...8000Hz
Microphone:	Electret condenser microphone

Connections

Video output socket:	Cinch jack, $1V_{pp}$, 75Ω, unbalanced, sync negative
Audio output socket:	Cinch jack, -6dB (at load impedance 47kΩ)
Edit socket:	5-pin for connecting to VS20

Power requirements

Battery pack:	4.8V
AC power adaptor:	6.0V

Power consumption

Camera recording (with viewfinder):	approx. 6W

General

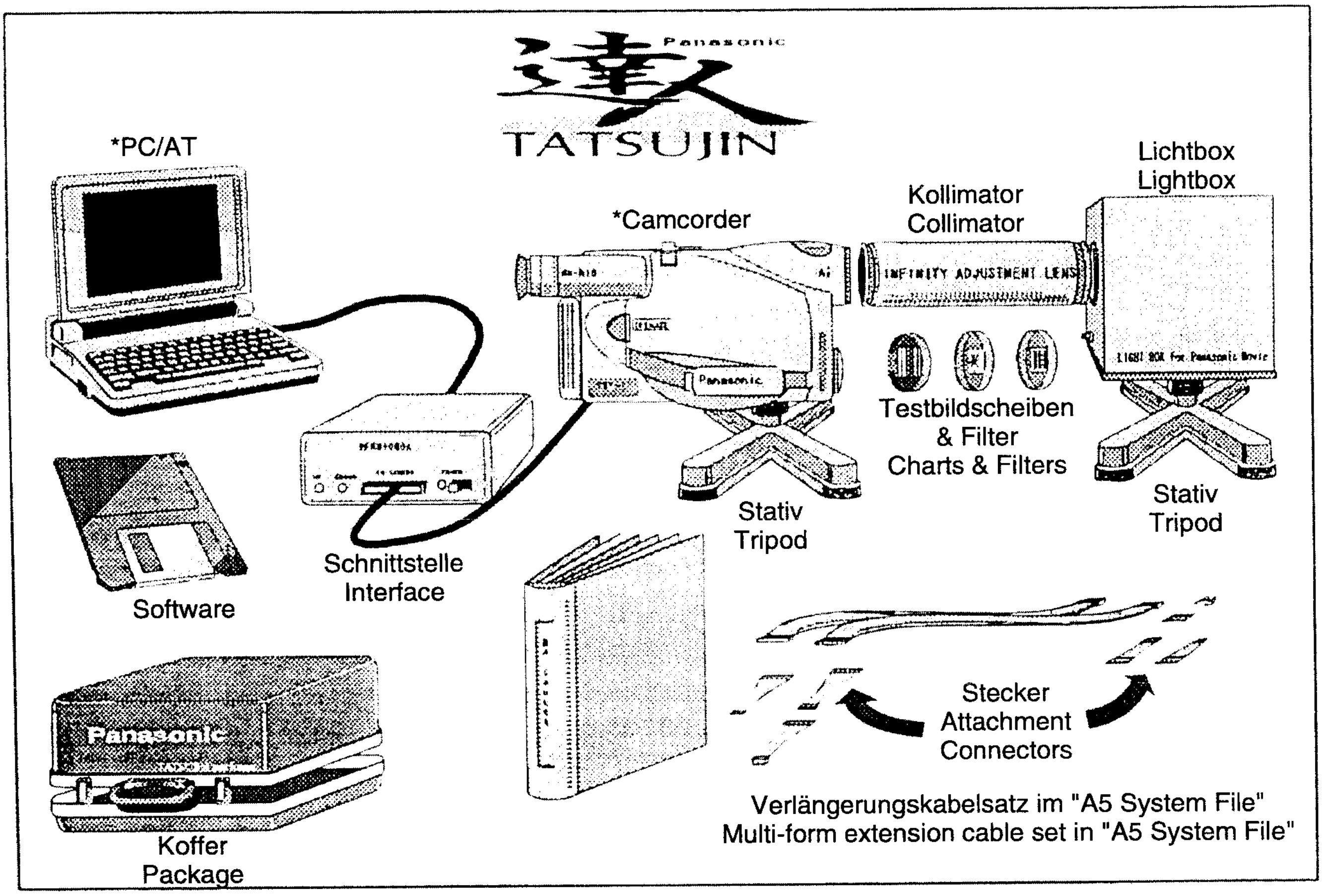
Weight:	approx. 750g (without battery pack)
Viewfinder:	0.5" Viewfinder (black/white)
Operating temperature:	0°C ... 40°C

LC 600 C Servicemittel / Service Jigs and Tools

Stück **Piece**	**Bezeichnung** **Description**	**Sach-Nr.** **Part No.**	**Panasonic-Nr.** **Panasonic No.**
1	"TATSUJIN"-Kit	–	VED95TTJ
1	Bedienungsanleitung / Instuction Manual "TATSUJIN"-Kit	75981-340.34	–
1	Verlängerungskabel / Extension Cable (24P)	75987-564.53	VFK0668
2	Verlängerungskabel / Extension Cable (13P)	75987-564.55	VFK0670
1	Verlängerungskabel / Extension Cable (18P)	75981-303.53	VFK0913
1	Verlängerungskabel / Extension Cable (12P)	75981-303.59	VFK0929
1	Verlängerungskabel / Extension Cable (6P)	75981-326.38	VFK0978
1	Verlängerungskabel / Extension Cable (9P)	75981-326.40	VFK0980
1	Adapterstecker / Attachment Connector (18P) **(neu! / new!)**	75981-349.87	VFKW0F0034
1	Adapterstecker / Attachment Connector (7P)	75981-340.30	VFKW0F0139
1	Adapterstecker / Attachment Connector (7P)	75981-340.31	VFKW0F0140
1	Verbindungskabel / Common Cable (28P)	75981-340.32	VFKW0F0001
1	Innensechskantschlüssel / Hex. Key Wrench set (8 pcs.)	75987-462.67	VFK0326
1	Spezialschraubendreher / Posr. ADJ. Screw Driver	75987-480.71	VFK0329
1	H-Lagen-Einsteller / H-Position Adjustment Driver	75981-277.03	VFK0743
1	Vielzahnschlüssel / Asterisk Wrench	75987-587.56	VFK0824
1	VHS-C Einstellband / VHS-C Alignment Tape	75987-462.68	VFM8180HUPF

Service Kit "TATSUJIN" (VED95TTJ)

Service Device Kit "TATSUJIN" (VED95TTJ)


Panasonic
TATSUJIN
*PC/AT
*Camcorder
Kollimator
Collimator
Lichtbox
Lightbox
INFINITY ADJUSTMENT LENS
LIGHT BOX for Panasonic Movie
Testbildscheiben
& Filter
Charts & Filters
Stativ
Tripod
Stativ
Tripod
Schnittstelle
Interface
Software
Stecker
Attachment
Connectors
Verlängerungskabelsatz im "A5 System File"
Multi-form extension cable set in "A5 System File"
Koffer
Package
Panasonic

Ab sofort ist von Panasonic der neue Service Kit "TATSUJIN" für die Camcorder erhältich.
"TATSUJIN" ist ein japanisches Wort und bedeutet Spezialist. Dieses Service Kit ist speziell für den Abgleich und die Fehlersuche der Camcorder ausgelegt.
Das "TATSUJIN" besteht aus 3 Komponenten, übersichtlich verpackt in einem kleinen Koffer (siehe Punkte 1...3). Alle diese Service-Mittel werden Ihre Produktivität bezüglich der Fehlerdiagnose, des Abgleichs und der Überprüfung des Camcorders drastisch steigern.

1. PC-EVR (Schnittstelle, Software, Anschlußkabel)
Der EVR stellt die Verbindung von Ihrem Camcorder* zum PC/AT* her, so daß der Abgleich und die Fehlersuche bequem über den PC-Bildschirm erfolgen kann.
Die Zeit, die normalerweise der Camcorder-Abgleich in Anspruch nimmt, verkürzt sich um mehr als 60%. Außerdem hilft dieser EVR bei der Fehlerdiagnose und trägt dazu bei, daß der Service erheblich effizienter durchgeführt werden kann.
Der herkömmliche EVR (VFK0644) wird durch dieses neue computergestützte System ersetzt.

Hinweis:
*PC/AT und *Camcorder sind nicht im Lieferumfang enthalten. Der PC muß mindestens folgende Bedingungen erfüllen: Prozessor 80286, 1MB RAM, und MS-DOS 3.2.

A new service device kit for Video Camera, "TATSUJIN" Kit, is now available from Panasonic.
"TATSUJIN" is a Japanese word which means specialist or master. This Service Kit is especially designed for alignment and troubleshooting of camcorders.
The "TATSUJIN" consists of 3 items which are simply organized in a small package (see points 1...3). All of which will drastically improve your productivity of Video Camera servicing in terms of Diagnosis, Adjustment, and Confirmation.

1. PC-EVR (Interface, Software, Connecting Cables)
It connects a Camera* to your PC/AT* so that the adjustment and trouble-shooting can be done easily on the PC screen.
The time usually taken by the camera adjustment will be reduced by more than 60%. In addition, its diagnosis support function helps you to improve the service efficiency drastically.
The conventional EVR (VFK0644) will be replaced by this new computer-aided system.

Note:
*PC/AT and *Camera are not included in the kit. The minimum requirement of the PC is 80286 CPU, 1MB RAM, and MS-DOS 3.2.

2. Optik (Kollimator, Testbildvorlagen & Filter, Lichtbox, Stative)
Alle für die Camcorder-Reparatur unentbehrlichen optischen Vorrichtungen, die bisher über dem Meßplatz aufgehängt werden mußten, lassen sich jetzt ganz kompakt auf dem Meßplatz aufstellen.
Sie können jetzt einfach verschiedene Testbilder "ins Visier nehmen"
- FARBBALKENTESTBILD
- GRAUTREPPENTESTBILD
- AUFLÖSUNGSTESTBILD
- WEISSTESTBILD

indem Sie die Vorsatzscheiben am Kollimator befestigen, der in die kompakte Lichtbox eingesteckt wird.
Störende Fremdlichteinflüsse sind ausgeschlossen. Ein Messen des Abstands zum Testbild erübrigt sich.

3. Universeller Verlängerungskabelsatz
Duch unterschiedliche Kombinationen der Adapterstecker und Verbindungskabeln ergeben sich verschiedene Adaptionsmöglichkeiten. Alle Adapterstecker, die seit 1990 für alle Verlängerungskabel verwendet wurden, sind in einem "A5- Hefter" eingeordnet.
Die Sachnummern der Adapterstecker für neuere Geräte entnehmen Sie bitte der Servicemittelaufstellung (Seite 0-4).

Anschlußbeispiel für ein Verlängerungskabel
Wie die Verlängerungskabel zu verwenden sind, ist nachstehend erklärt.
Im dargestellten Fall ist zwischen der Hauptplatine (FP2001) und dem Kopfrad ein neues Verlängerungskabel anzuschließen.

1. Stecker (VFKW0F0139 & VFKW0F0140) wie folgt am Universalkabel (VFKW0F0001) anbringen. Beachten Sie bitte die Belegungsrichtung der Leitungen zwischen dem Stecker und dem Universalkabel.

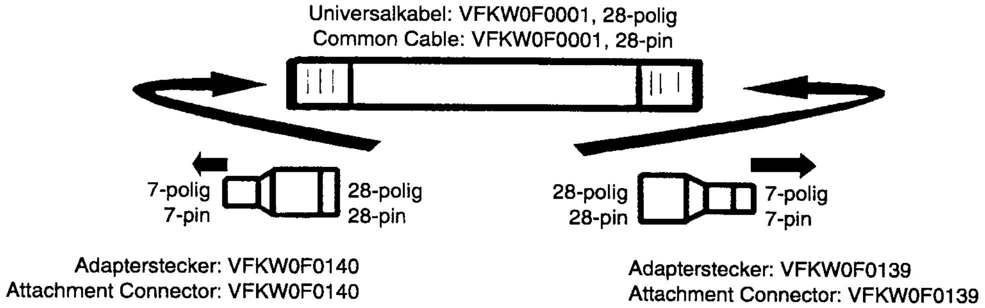
2. Optical Set (Collimator, Charts & Filters, Light Box, Tripods)
All of the optical devices which are indispensable to service a camera but used to take a hung space to set up, are now drastically shrunk into a compact "Desk-top space".
Now you can easily aim various charts
- COLOUR-BAR
- GRAY-SCALE
- HUNTING
- WHITE

by simply attaching them to the collimator which is inserted in a compact lightbox.
So you do not have to worry about restricting external light and measuring the distance form the chart.

3. Multi-form Extension Cable Set
Now you can make any kind of extension cable required by simply changing the attachment connectors. All of the connectors which cover all extension cables since 1990 are simply organized in a "A5 System file".
For the part numbers of the attachment connectors for new models please see the list of Service Jigs and Tools (page 0-4).

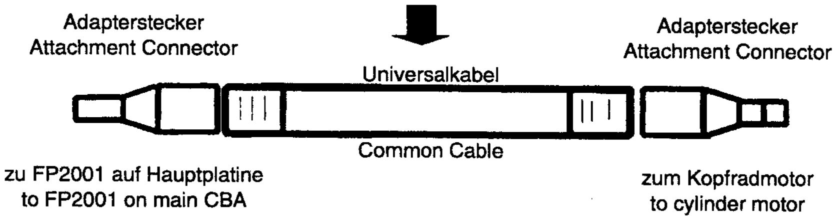
Example for new type of extension cables.
How to use the new type extension cables is shown below.
The figure below shows a new extension cable connected between the main cirucit board (FP2001) and the cylinder.

1. Attach the attachment connector (VFKW0F0139 & VFKW0F0140) to the Common Cable (VFKW0F0001) as follows. Please check the direction of conductors between attachment connector and Common Cable.


Universalkabel: VFKW0F0001, 28-polig
Common Cable: VFKW0F0001, 28-pin
7-polig
7-pin
28-polig
28-pin
28-polig
28-pin
7-polig
7-pin
Adapterstecker: VFKW0F0140
Attachment Connector: VFKW0F0140
Adapterstecker: VFKW0F0139
Attachment Connector: VFKW0F0139

2. Stecker (VFKW0F0139) für Kopfradmotor anschließen.
3. Stecker (VFKW0F0140) für FP2001 auf der Hauptplatine anschließen.

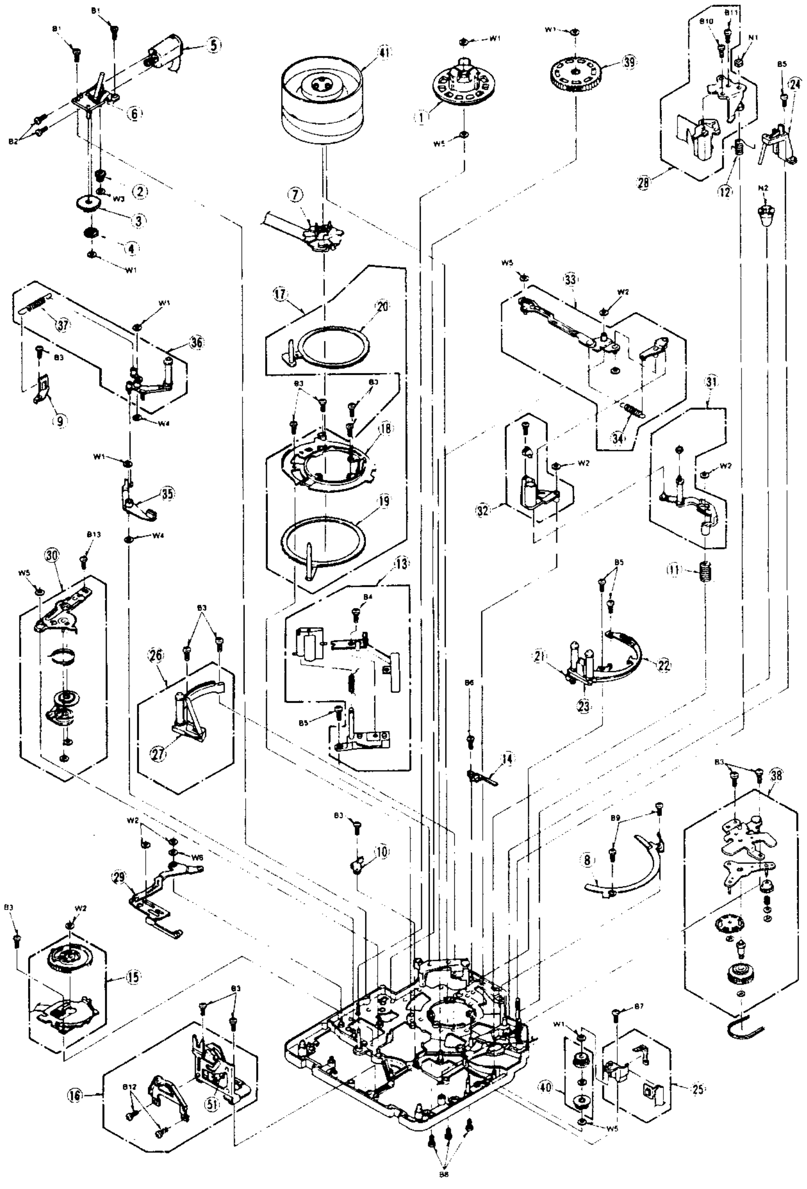
2. Connect the attachment connector (VFKW0F0139) to the Cylinder Motor
3. Connect the attachment connector (VFKW0F0140) to the FP2001 on Main CBA


Adapterstecker
Attachment Connector
Universalkabel
Common Cable
Adapterstecker
Attachment Connector
zu FP2001 auf Hauptplatine
to FP2001 on main CBA
zum Kopfradmotor
to cylinder motor

Explosionszeichnungen / Exploded Views

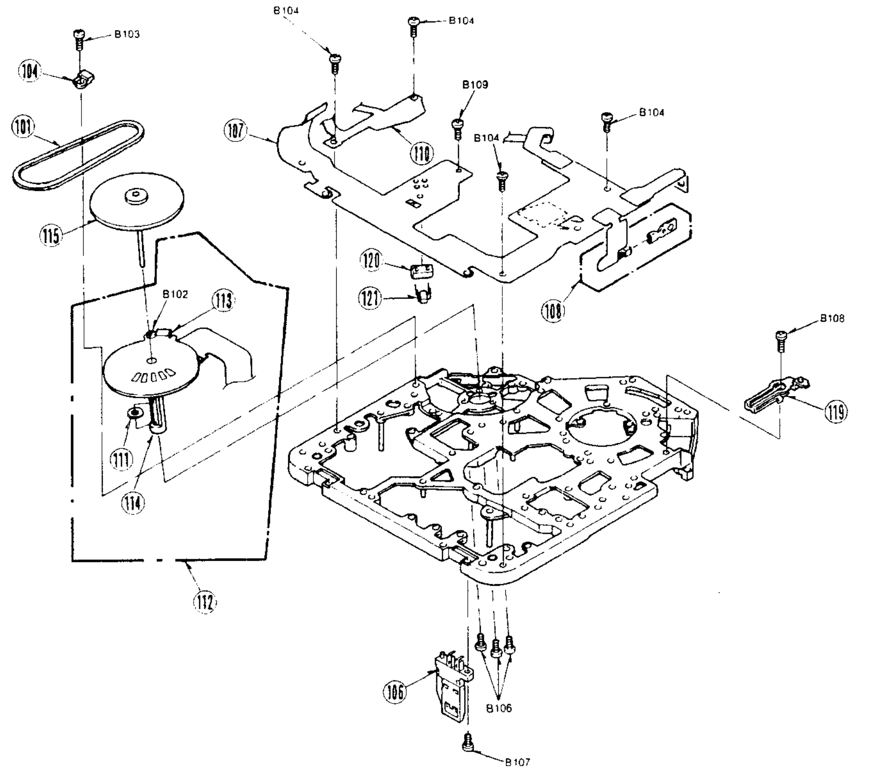
Laufwerk (1) / VTR Mechanism Section (1)

1


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
51
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
W1
W2
W3
W4
W5
W6
N1
N2

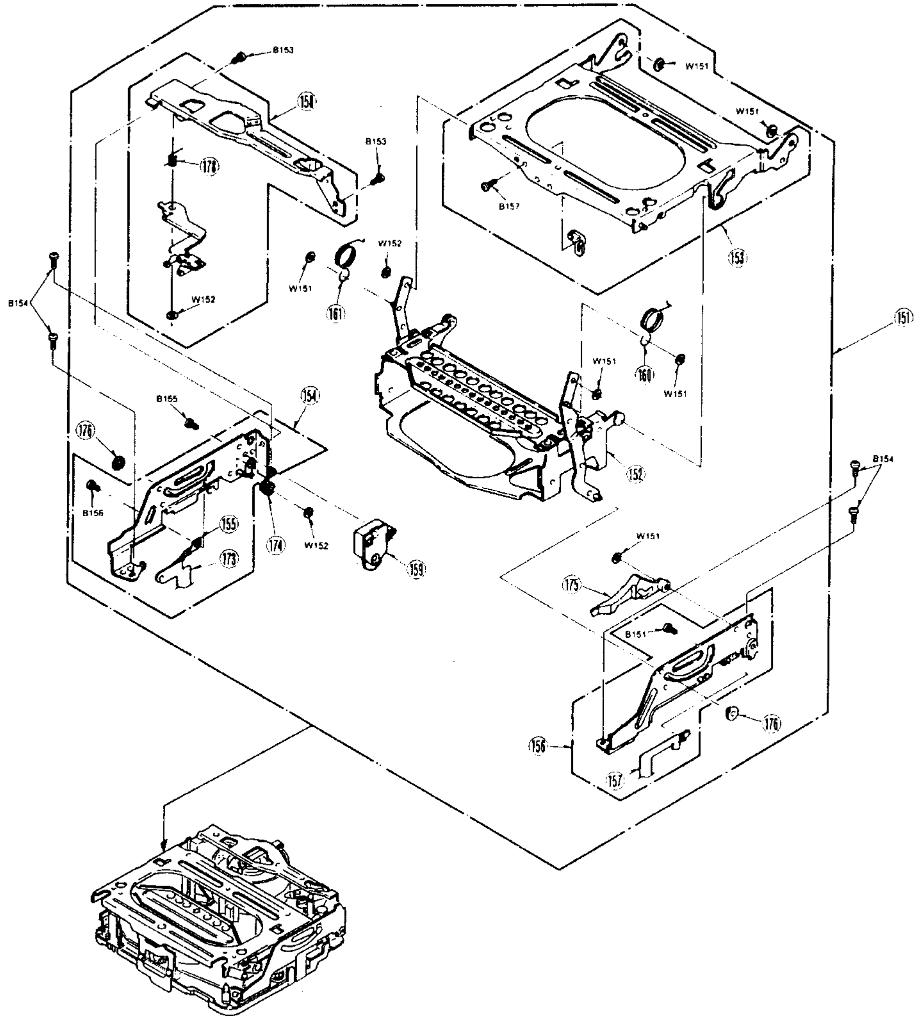
Laufwerk (2) / VTR Mechanism Section (2)

2


101
104
106
107
108
110
111
112
113
114
115
119
120
121
B102
B103
B104
B106
B107
B108
B109

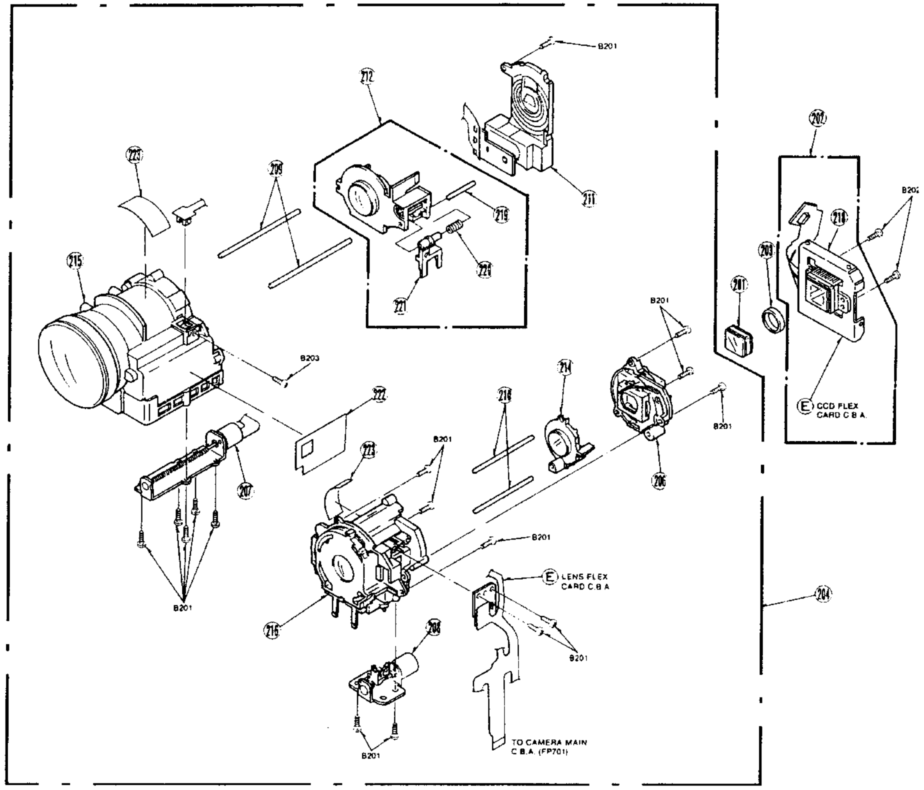
Laufwerk (3) / VTR Mechanism Section (3)

3

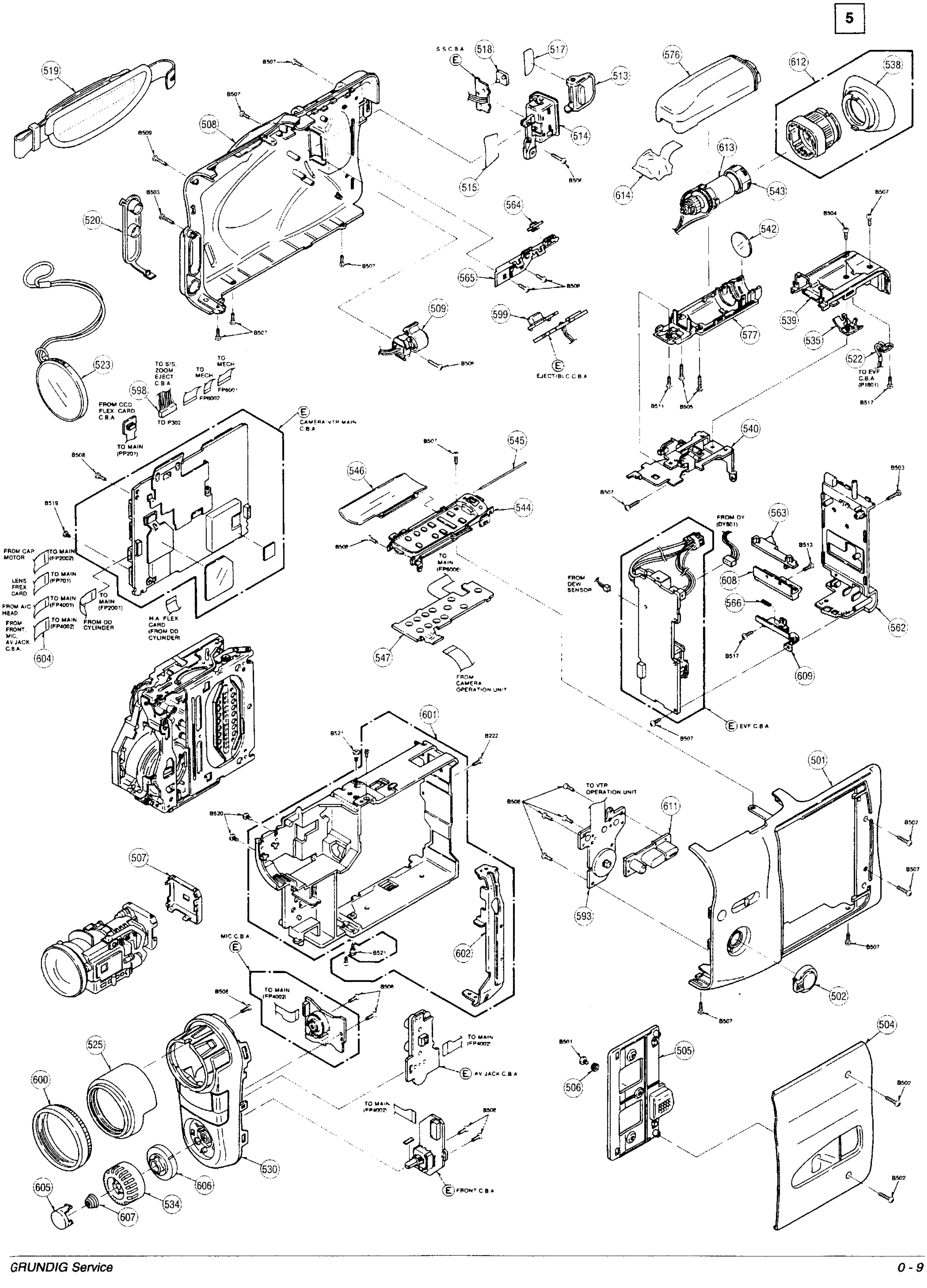

B153
158
B153
178
W152
W151
161
W152
B154
B157
153
W151
W151
151
160
W151
W151
152
B155
154
176
B156
155
173
174
W152
159
B154
W151
175
B151
176
156
157

Optik / Camera Lens Section

4


B201
212
211
202
223
209
219
221
221
B202
215
218
201
203
B201
B203
222
214
218
B201
207
223
B201
206
B201
Ⓔ CCD FLEX CARD C.B.A.
B201
Ⓔ LENS FLEX CARD C.B.A
204
216
208
B201
B201
B201
TO CAMERA MAIN C.B.A. (FP701)

Gehäuse / Frame & Casing Parts Section


5
519
508
520
523
518
517
513
514
515
576
612
538
613
614
543
542
539
535
522
577
564
565
599
509
598
546
545
544
547
540
563
608
566
609
562
604
601
501
611
593
502
507
602
525
600
530
606
605
607
534
504
505
506
S.S.C.B.A
EJECT/BLCC C.B.A
TO S/S. ZOOM. EJECT C.B.A
TO MECH
TO MECH
FP6001
FP6002
TO P302
FROM CCD FLEX. CARD C.B.A
TO MAIN (PP201)
CAMERA/VTR MAIN C.B.A
FROM CAP. MOTOR
TO MAIN (FP2002)
LENS FREX CARD
TO MAIN (FP701)
FROM A/C HEAD
TO MAIN (FP4001)
FROM FRONT. MIC. AV JACK C.B.A.
TO MAIN (FP4002)
TO MAIN (FP2001)
FROM DD CYLINDER
H.A. FLEX. CARD (FROM DD CYLINDER)
TO MAIN (FP6006)
FROM CAMERA OPERATION UNIT
TO EVF C.B.A (P1801)
FROM DY (DY801)
FROM DEW SENSOR
EVF C.B.A
TO VTR OPERATION UNIT
MIC C.B.A
TO MAIN (FP4002)
TO MAIN (FP4002)
AV JACK C.B.A
TO MAIN (FP4002)
FRONT C.B.A
B507
B509
B503
B508
B519
B504
B511
B505
B517
B513
B502
B501
B520
B521
B222
B506

GRUNDIG Ersatzteilliste Spare Parts List

(D) Btx * 32700 #

3 / 96

LC 600 C

SACH-NR. / PART NO.: 75.8627-1000
BESTELL-NR. / ORDER NO.: G.MF 7000

POS. NR. POS. NO.	ABB. FIG.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG (D)	DESCRIPTION (GB)
0001.000	1	75987-587.07		WICKELTELLER	REEL
0002.000	1	75987-587.08		ZAHNRAD	GEAR WHEEL
0003.000	1	75987-587.09		ZAHNRAD	GEAR WHEEL
0004.000	1	75987-587.10		ZAHNRAD	GEAR WHEEL
0005.000	1	75987-587.58		MOTOR LOADING KPL.	MOTOR LOADING UNIT
0006.000	1	75987-587.11		HALTER	HOLDER
0007.000	1	75981-340.00		VERTEILERPLATTE	DISTRIBUTOR PLATE
0008.000	1	75987-587.12		GLEITRING	RING SLIDER
0009.000	1	75987-587.13		FEDERHAKEN	SPRING HOOK
0010.000	1	75987-587.14		HALTER	HOLDER
0011.000	1	75987-587.15		DRUCKFEDER	PRESSURE SPRING
0012.000	1	75987-587.16		DREHFEDER	TORSION SPRING
0013.000	1	75981-340.01		FUEHRUNG KPL.	GUIDE CPL.
0013.001	1	75987-482.33		MUTTER	NUT
0013.002	1	75987-587.42		KEGELMUTTER	TAPERED NUT
0014.000	1	75987-587.18		FUEHRUNG	GUIDE
0015.000	1	75981-299.34		SCHALTER (KURVENRAD)	SWITCH
0016.000	1	75981-303.76		VERRIEGELUNGSEINHEIT	LOCK BASE UNIT
0017.000	1	75981-326.43		LADERING U	CHARGING RING U
0018.000	1	75987-587.20		FUEHRUNGSSEGMENT	RING GUIDE
0019.000	1	75987-587.21		FAEDELSEGMENT	LOADING RING
0020.000	1	75987-587.22		FAEDELSEGMENT	LOADING RING
0021.000	1	75987-587.23		LED EINHEIT	LED
0022.000	1	75987-587.24		FUEHRUNGSSEGMENT	GUIDE RAIL
0023.000	1	75981-275.64		FUEHRUNG	GUIDE
0024.000	1	75981-326.44		EINHEIT T4 U	UNIT T4 U
0025.000	1	75987-587.27		SENSOR	SENSOR
0026.000	1	75981-334.55		BANDFUEHRUNG LINKS	LEVER, TAPE TENSION
0027.000	1	75981-347.92		FUEHRUNG KPL.	GUIDE CPL.
0028.000	1	75981-319.50		AUDIOKOPFEINHEIT	AC HEAD
0029.000	1	75981-340.03		AUSWURFHEBEL	EJECT LEVER
0030.000	1	75981-340.04		DREHHEBEL	ROTARY LEVER
0031.000	1	75981-340.05		SCHWENKARM	LEVER
0032.000	1	75981-299.37		ANDRUCKROLLE	PINCH ROLLER
0033.000	1	75987-587.34		STEUERSCHIEBER	LEVER UNIT
0034.000	1	75987-587.35		ZUGFEDER	TENSION SPRING
0035.000	1	75987-587.36		BREMSHEBEL	BRAKE LEVER
0036.000	1	75987-587.37		BANDZUGHEBEL	TENSION ARM U
0037.000	1	75987-587.38		ZUGFEDER	TENSION SPRING
0038.000	1	75981-340.06		ZWISCHENRAD EINHEIT	PIVOTING LEVER
0039.000	1	75987-587.40		ZAHNRAD	GEAR WHEEL
0040.000	1	75987-587.41		ANTRIEBSRAD	DRIVE WHEEL
0041.000	1	75981-332.20		BANDTROMMEL KPL.	TAPE DRUM CPL.
0051.000	1	75987-587.43		FEDER	SPRING
0101.000	2	75987-587.45		RIEMEN, CAPSTAN	CAPSTAN BELT
0104.000	2	75987-587.46		STOPPER	STOPPER
0106.000	2	75981-347.60		KONTAKTFEDERSATZ	CONTACT SPRING SET
0107.000	2	75981-340.07		FLEXIBLE PLATTE	FLEXIBLE PLATE
0108.000	2	75987-587.48		FOTO-TRANS.(L)	PHOTO (L) UNIT
0110.000	2	75987-587.27		SENSOR	SENSOR
0111.000	2	75981-279.17		LAGER	BEARING
0112.000	2	75981-332.22		STATOR KPL.	STATOR CPL.
0113.000	2	75987-587.51		MAGNETKOPF	MAGNETIC HEAD
0115.000	2	75987-587.52		ROTOR	ROTOR UNIT
0119.000	2	75981-347.16		CCD-EINHEIT	CCD - UNIT
0120.000	2	75981-342.98		OPTOKOPPLER BLOCK	OPTOCOUPLER
0121.000	2	75981-275.63		OPTOKOPPLER ON 2170 LM	OPTOCOUPLER
0152.000	3	75981-321.10		CASSETTENHALTER	CASSETTE HOLDER
0153.000	3	75981-299.40		CASSETTENSCHACHTOBERTEIL	CASSETTE COMP.UPPER PART
0154.000	3	75987-587.55		FUEHRUNG, LINKS	GUIDE, LEFT
0155.000	3	75987-587.48		FOTO-TRANS.(L)	PHOTO (L) UNIT
0156.000	3	75981-347.62		FUEHRUNG RECHTS KPL.	GUIDE
0158.000	3	75981-275.65		HALTER	HOLDER
0159.000	3	75981-319.53		DAEMPFUNG	DAMPING
0160.000	3	75987-587.61		DREHFEDER	TORSION SPRING
0161.000	3	75987-587.62		DREHFEDER	TORSION SPRING
0173.000	3	75987-587.64		FLEXIBLE LEITUNG, 2-POL.	FLEXIBLE CABLE, 2-POL.
0174.000	3	75987-587.65		ZAHNRAD	GEAR WHEEL
0175.000	3	75987-587.66		HEBEL	LEVER
0176.000	3	75981-275.67		BUCHSE	SOCKET
0178.000	3	75981-326.49		DREHFEDER	TORSION SPRING
0201.000	4	75981-340.09		KRISTALL-FILTER	CRYSTAL FILTER
0202.000	4	75981-347.16		CCD-EINHEIT	CCD - UNIT
0204.000	4	75981-347.26		LINSENEINHEIT	LENS UNIT
0207.000	4	75981-342.49		STECKVERBINDUNG	CONNECTOR
0208.000	4	75981-303.84		FOCUS MOTOR EINHEIT	FOCUS MOTOR UNIT
0211.000	4	75981-343.06		LINSE KPL.	LENS ASSY
0216.000	4	75981-347.64		LINSENRAHMEN KPL.	3 RD LENS FRAME U
0501.000	5	75981-347.24		GEHAEUSESEITENTEIL RECHTS	SIDE CASE (R)
0502.000	5	75981-347.82		BELICHTUNGSWAEHLER	AE DIAL U
0504.000	5	75981-347.29		CASSETTENFACHDECKEL	CASSETTE COMPARTMENT LID
0505.000	5	75981-347.83		KNOPF CASS.-VERRIEGELUNG	KNOB CASS. LOCKING
0506.000	5	75981-347.84		CASSETTENFEDER	CASSETTE COIL SPRING
0508.000	5	75981-347.30		GEHAEUSESEITENTEIL LINKS	SIDE CASE (L)
0509.000	5	75981-347.66		KNOPF, ZOOM	ZOOM, BUTTON
0513.000	5	75981-347.67		S/S KNOPF KPL.	S/S BUTTON U
0514.000	5	75981-347.68		S/S KNOPF HALTER	S/S BUTTON HOLDER
0515.000	5	75981-343.15		SCHALTERFEDER	SWITCH,SPRING
0517.000	5	75981-347.69		KNOPF, EINLAGE	S/S BUTTON INSERT
0518.000	5	75981-340.13		KONTAKTGUMMI	CONTACT RUBBER
0519.000	5	75981-326.58		TRAGEGRIFF	CARRYING HANDLE
0520.000	5	75981-348.91		AV-BUCHSENABDECKUNG	AV JACK COVER
0522.000	5	75987-587.63		SENSOR	SENSOR
0523.000	5	75981-347.27		LINSENABDECKUNG KPL.	LENS COVER CPL.
0525.000	5	75981-347.73		LINSENABDECKUNG	LENS COVER
0530.000	5	75981-347.31		GEHAEUSEVORDERTEIL	CABINET FRONT
0534.000	5	75981-348.96		KNOPF, FOKUS	KNOB FOCUS
0535.000	5	75981-347.75		MONITORVERRIEGELUNG	EVF LOCK PIECE
0538.000	5	75981-279.38		AUGENMUSCHEL	EYE CAP
0540.000	5	75981-347.76		MONITOR DREHARM	EVF ROTATY ANGLE U
0542.000	5	75981-347.77		PROJEKTION PLATTE	PROTECTION PANEL
0543.000	5	75981-347.08		MONITORROEHRE	MONITOR TUBE
0544.000	5	75981-347.28		GEHAEUSETEIL OBEN	CABINET TOP
0545.000	5	75981-340.21		SCHAFT	SHAFT
0546.000	5	75981-347.78		VTR-TUER	VTR DOOR
0547.000	5	75981-347.79		VTR-SCHALTERPLATTE KPL.	VTR OPERATION U
0562.000	5	75981-347.80		RUECKTEIL KPL.	REAR PANEL CPL.
0563.000	5	75981-347.81		BATTERIEVERRIEGELUNG	BATTERIE LOCK
0564.000	5	75981-347.71		KNOPF AUSWURF	KNOB, EJECT
0565.000	5	75981-347.72		HALTER-AUSWURFPLATTE	EJECT C.B.A. HOLDER
0566.000	5	75981-275.85		DRUCKFEDER	PRESSURE SPRING
0576.000	5	75981-347.22		MONITORGEHAEUSE OBEN	MONITOR HOUSING UPPER
0577.000	5	75981-347.23		MONITORGEHAEUSE UNTEN	MONITOR HOUSING LOWER
0599.000	5	75981-348.97		KNOPF, BACK LIGHT	KNOB BACK LIGHT
0600.000	5	75981-347.32		SEITENLICHTBLENDE	SIDE LIGHT MASK
0604.000	5	75981-347.88		FLEXIBLE VERBINDUNG	FLEXIBLE CABLE
0605.000	5	75981-347.85		WAEHLKNOPF	MODE BUTTIN
0606.000	5	75981-347.86		WAEHLSTUECK	SELECT PIECE
0607.000	5	75981-347.87		FADER, WAEHLKNOPF	FADER SELECT KNOB
0608.000	5	75981-275.81		HALTER, ACCU	HOLDER, ACCU
0611.000	5	75981-348.94		BEDIENKNOPF, CAMERA	CAMERA, OPERATION BUTTON
0612.000	5	75981-348.99		GEHAEUSE MONITOR	FINDER
0613.000	5	75981-348.92		SUCHERROEHRE	DY

POS. NR. POS. NO.	ABB. FIG.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG (D)	DESCRIPTION (GB)
				ZUBEHOER	**ACCESSORIES**
	⚠	75981-336.50		NETZTEIL NA 96 C	POWER SUPPLY NA 96 C
	⚠	75981-332.64		ACCU BP 74	ACCU BP 74
		75987-443.67		CASSETTENADAPTER CCA 80	CASSETTE ADAPTOR CCA 80
	⚠	75981-326.77		NETZKABEL	POWER CABLE
		75981-304.24		DC-KABEL	DC CABLE
		75981-340.28		SCHULTERRIEMEN	SHOULDER BELT
		75987-249.85		COLOUR - FILTER	COLOUR FILTER
		75987-550.13		E.V.R. FIXTURE	E.V.R FIXTURE
		75981-274.74		VERLAENG.KABEL 6POL F.MON	E.V.R CONNECTION CABLE
		72010-522.80		BEDIENUNGSANLTG. F/E/NL/S	INSTRUCTION MANUAL F/E/NL
		72010-522.81		BEDIENUNGSANL. D/I	INSTRUCTION MANUAL D/I
		72010-522.82		BEDIENUNGSANLEITUNG GB/DK	INSTRUCTION MANUAL GB/DK
		72010-524.25		SERVICE MANUAL D/GB	SERVICE MANUAL D/GB

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
	75981-347.20	**CAMERA-HAUPTPLATTE**
D 202	75952-023.14	DIODE 1 SS 355
D 203	75981-347.35	DIODE RB751V40
D 204	75952-023.14	DIODE 1 SS 355
D 205	75981-347.35	DIODE RB751V40
D 481	75981-347.35	DIODE RB751V40
D 482	75981-347.35	DIODE RB751V40
D 1002	75981-342.94	DIODE EC20QS06
D 1006	75987-565.11	DIODE MA 132 K
D 1007	75987-565.11	DIODE MA 132 K
D 1015	75981-342.93	DIODE EC15QS04
D 3001	75987-550.59	DIODE MA 132 WK
D 3002	75952-023.14	DIODE 1 SS 355
D 3003	75987-550.58	DIODE MA 132 WA
D 3004	75952-023.14	DIODE 1 SS 355
D 3005	75987-550.61	DIODE MA 133
D 6001	75987-550.58	DIODE MA 132 WA
D 6002	75987-550.58	DIODE MA 132 WA
D 6003	75952-023.14	DIODE 1 SS 355
D 6004	75952-023.14	DIODE 1 SS 355
D 6005	75952-023.14	DIODE 1 SS 355
D 6006	75981-347.35	DIODE RB751V40
D 6007	75987-550.59	DIODE MA 132 WK
D 6008	75952-023.14	DIODE 1 SS 355
D 6011	75987-550.59	DIODE MA 132 WK
D 6012	75987-550.58	DIODE MA 132 WA
D 6016	75987-550.61	DIODE MA 133
D 6018	75981-347.35	DIODE RB751V40
D 6201	75952-023.14	DIODE 1 SS 355
FL 201	75981-279.52	FILTER
FP 701	75981-348.32	STECKVERBINDUNG 18-POL.
FP 2002	75981-348.37	STECKVERBINDUNG 18-POL.
FP 4001	75981-348.34	STECKVERBINDUNG 9-POL.
FP 5001	75981-348.36	STECKVERBINDUNG 13-POL.
FP 6001	75981-348.37	STECKVERBINDUNG 18-POL.
FP 6002	75981-342.59	STECKVERBINDUNG 6-POL.
FP 6006	75981-348.38	STECKVERBINDUNG 21-POL.
IC 201	75981-332.09	IC MN 5224
IC 202	75981-347.04	IC MN 31121SA
IC 203	75981-347.10	IC NM 2035FAQ
IC 205	75987-245.02	IC AN 1358 S
IC 301	75981-347.01	IC F 432512APZ
IC 302	75981-331.07	IC M 62366 GP
IC 303	75981-344.04	IC TC7W74FU
IC 308	75981-347.36	IC TC 7S04 FU
IC 701	75981-347.13	IC TB 6526F
IC 702	75981-347.13	IC TB 6526F
IC 706	75981-347.09	IC NJM 2115VA
IC 710	75981-347.03	IC MN 1882421M7P
IC 711	75981-331.18	IC TA 75 W 01 FU
IC 751	75981-331.75	IC TA 75 S393 F
IC 1001	75981-303.66	IC BA 9706 K
IC 2001	75981-332.16	IC TB 6518 F
IC 2002	75987-587.00	IC UN 224
IC 2003	75987-587.00	IC UN 224
IC 3001	75981-347.02	IC HA 118401F
IC 4001	75981-332.02	IC BA 7758 FS
IC 5001	75981-332.00	IC AN 3355 FHP
IC 5501	75981-347.06	IC MSM 7470-73MS
IC 6001	75981-347.05	IC MN 6755486M7R
IC 6002	75981-332.07	IC MM 1273 XFF
IC 6003	75981-347.00	IC BU 6194FV
IC 6004	75981-347.12	IC S 29355AFE

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
IC 6005	75981-295.58	IC BA 6289 F
IC 6006	75981-320.00	IC TA 75 W 393 FU
IC 6007	75987-586.18	IC TC 4 W 53 F
IC 6008	75987-586.19	IC TC 7 W 04 F
IC 6009	75981-334.05	SMD IC SC 7 S 08 F
IC 6012	75987-586.18	IC TC 4 W 53 F
L 201	75981-277.12	SPULE 33UH
L 202	75981-286.54	SPULE 68UH
L 203	75981-299.82	SPULE 82UH
L 204	75981-331.54	SPULE ELJFA 220 JB
L 206	75981-331.54	SPULE ELJFA 220 JB
L 207	75981-331.54	SPULE ELJFA 220 JB
L 208	75981-331.54	SPULE ELJFA 220 JB
L 212	75987-565.02	SPULE 27UH
L 302	75981-334.47	SPULE
L 303	75981-334.47	SPULE
L 402	75981-334.47	SPULE
L 403	75987-565.05	SPULE 47 UH
L 404	75981-334.47	SPULE
L 701	75981-334.47	SPULE
L 702	75981-334.47	SPULE
L 703	75987-564.98	SPULE 15UH
L 704	75981-334.47	SPULE
L 705	75981-334.47	SPULE
L 708	75981-334.47	SPULE
L 802	75981-347.55	SPULE ELH 5L244
L 1001	75981-347.37	SPULE VLQ 0759
L 1002	75981-347.38	SPULE VLQ 0760
L 1003	75981-347.39	SPULE VLQ 0763
L 1004	75987-564.96	SPULE 10UH
L 1006	75987-564.98	SPULE 15UH
L 1007	75981-347.40	SPULE VLQ 0761
L 1008	75981-347.39	SPULE VLQ 0763
L 1010	75987-564.96	SPULE 10UH
L 1011	75987-564.97	SPULE 100UH
L 1012	75987-564.96	SPULE 10UH
L 1014	75987-564.96	SPULE 10UH
L 1015	75987-565.00	SPULE 47 UH
L 1062	75981-347.42	SPULE VLQ 0762
L 1601	75981-347.56	SPULE VLP 0307
L 1602	75981-347.56	SPULE VLP 0307
L 3001	75981-277.13	SPULE 120UH
L 3002	75987-564.98	SPULE 15UH
L 3003	75987-564.90	SPULE
L 3004	75981-296.38	SPULE
L 3005	75987-564.97	SPULE 100UH
L 3006	75981-331.54	SPULE ELJFA 220 JB
L 3007	75981-277.14	SPULE 15UH
L 3010	75987-579.71	SPULE
L 3011	75981-331.54	SPULE ELJFA 220 JB
L 3021	75987-564.97	SPULE 100UH
L 4005	75987-564.97	SPULE 100UH
L 5001	75987-564.97	SPULE 100UH
L 5002	75987-565.00	SPULE 47 UH
L 5003	75987-565.00	SPULE 47 UH
L 5004	75987-564.97	SPULE 100UH
L 5501	75987-564.98	SPULE 15UH
L 5502	75981-277.12	SPULE 33UH
L 5503	75981-277.16	SPULE 100UH
L 5504	75981-277.14	SPULE 15UH
L 5506	75987-586.58	SPULE 100UH
L 5507	75981-277.13	SPULE 120UH
L 5508	75981-347.43	DR. 470UH 5% VLQ0163J471
L 6002	75987-586.58	SPULE 100UH
LB 209	75981-304.52	SPULE
LB 210	75981-304.52	SPULE

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
LB 211	75981-304.52	SPULE
LB 213	75981-305.53	SPULE
LB 301	75981-342.78	SPULE
LB 307	75981-331.55	SPULE VLP0175
LB 308	75981-279.57	SPULE
LB 406	75981-279.57	SPULE
PP 201	75981-348.42	STECKVERBINDUNG 12-POL.
PP 302	75981-348.41	STECKVERBINDUNG 10-POL.
PP 401	75981-342.50	STECKVERBINDUNG 24-POL.
PP 3001	75981-348.43	STECKVERBINDUNG 16-POL.
PS 1001	75981-348.44	STECKVERBINDUNG 24-POL.
Q 201	75987-551.82	TRANS.2 SD 2216
Q 202	75987-551.82	TRANS.2 SD 2216
Q 203	75987-551.73	TRANS.2 SB 1462
Q 205	75987-551.71	TRANS.XP 4601
Q 404	75987-551.70	TRANS.XP 4501
Q 405	75987-551.82	TRANS.2 SD 2216
Q 701	75981-347.44	TRANSISTOR XN 4404
Q 702	75981-347.44	TRANSISTOR XN 4404
Q 703	75981-347.44	TRANSISTOR XN 4404
Q 704	75981-304.71	TRANS.2 SD 601 A
Q 705	75987-551.82	TRANS.2 SD 2216
Q 706	75981-347.44	TRANSISTOR XN 4404
Q 751	75987-249.08	TRANS.2 SD 1030
Q 1001	75981-331.60	TRANS. 2SA1731-R
Q 1003	75981-331.61	TRANS. MPL 1 TL
Q 1004	75987-551.80	TRANS.2 SD 2210
Q 1062	75981-331.61	TRANS. MPL 1 TL
Q 3001	75987-551.70	TRANS.XP 4501
Q 3002	75987-551.69	TRANS.XP 4401
Q 3003	75987-551.76	TRANS.2 SC 4627
Q 3004	75987-551.76	TRANS.2 SC 4627
Q 3008	75987-551.82	TRANS.2 SD 2216
Q 3009	75987-551.73	TRANS.2 SB 1462
Q 3010	75987-551.82	TRANS.2 SD 2216
Q 3011	75981-331.63	TRANS. 2SD1819A
Q 3012	75987-551.82	TRANS.2 SD 2216
Q 4002	75981-326.94	TRANS.2 SD 602 R
Q 4003	75987-458.61	TRANS.2 SB 1219
Q 4005	75987-565.54	TRANS.XP 6501
Q 4006	75987-551.82	TRANS.2 SD 2216
Q 4009	75987-551.82	TRANS.2 SD 2216
Q 5001	75987-483.95	TRANS.XN 4504
Q 5002	75987-483.95	TRANS.XN 4504
Q 5003	75987-460.18	TRANS.2 SA 812
Q 5004	75981-347.46	TRANSISTOR SD 1328-S
Q 5502	75987-511.51	TRANS.XN 4608
Q 6002	75987-551.82	TRANS.2 SD 2216
Q 6004	75987-551.73	TRANS.2 SB 1462
Q 6005	75987-565.54	TRANS.XP 6501
Q 6006	75987-551.73	TRANS.2 SB 1462
Q 6201	75987-551.73	TRANS.2 SB 1462
Q 6400	75987-551.78	TRANS.2 SD 1819 R
QR 401	75981-296.34	TRANS.-WIDERST.MRN 1103
QR 402	75981-296.35	TRANS.-WIDERST.MRN 1102
QR 701	75981-296.35	TRANS.-WIDERST.MRN 1102
QR 1001	75981-331.64	TRANS. WIDERST. MRN2102
QR 1061	75981-296.43	TRANS.-WIDERST.MRN 2111
QR 2002	75981-331.63	TRANS. 2SD1819A
QR 3001	75981-296.34	TRANS.-WIDERST.MRN 1103
QR 3006	75981-296.47	TRANS.-WIDERST.MRN 1104
QR 3007	75981-296.34	TRANS.-WIDERST.MRN 1103
QR 3008	75981-296.47	TRANS.-WIDERST.MRN 1104
QR 4001	75981-296.34	TRANS.-WIDERST.MRN 1103
QR 4002	75981-296.48	TRANS.-WIDERST.MRN 2103
QR 5502	75987-565.27	TRANS.-WIDERST.UN 2130 X
QR 5503	75981-296.34	TRANS.-WIDERST.MRN 1103
QR 6002	75987-565.51	TRANS.-WIDERST.XP 4213
QR 6003	75981-296.48	TRANS.-WIDERST.MRN 2103
QR 6004	75981-304.58	TRANS.-WIDERST.XP 4115
QR 6005	75981-296.47	TRANS.-WIDERST.MRN 1104
QR 6006	75981-296.47	TRANS.-WIDERST.MRN 1104
QR 6007	75981-296.35	TRANS.-WIDERST.MRN 1102
QR 6010	75987-565.47	TRANS.-WIDERST.XP 1213
QR 6012	75981-296.47	TRANS.-WIDERST.MRN 1104
QR 6014	75987-550.92	TRANS.-WIDERST.UN 9210
QR 6015	75981-331.65	TRANS. WIDERST.MRN 1111
QR 6050	75981-275.48	TRANS.-WIDERST.XP 1211
QR 6400	75987-459.47	TRANS.-WIDERST.UN 5213
RA 6001	75981-342.87	WIDERSTAND EXBV8V102J
RA 6002	75981-347.47	WID.-NETZW.4X47KOHM
RA 6003	75981-347.48	WID.-NETZW.2X1KOHM5%
RA 6004	75981-342.87	WIDERSTAND EXBV8V102J
RA 6005	75981-342.87	WIDERSTAND EXBV8V102J
RA 6006	75981-347.51	WID.-NETZW.EXBV4V473J
RA 6007	75981-347.48	WID.-NETZW.2X1KOHM5%
RA 6008	75981-347.49	WID.-NETZW.2X100KOHM
RA 6010	75981-347.51	WID.-NETZW.EXBV4V473J
RA 6011	75981-347.48	WID.-NETZW.2X1KOHM5%
RA 6013	75981-342.87	WIDERSTAND EXBV8V102J
RA 6014	75981-347.47	WID.-NETZW.4X47KOHM
RA 6015	75981-347.50	WID.-NETZW.4X68KOHM
T 1001	75981-347.53	SPULE ELL 04T061R
T 1002	75981-320.08	TRAFO
T 4001	75981-321.00	TRAFO
VC 308	75987-550.27	TRIMMER 2P
VR 803	75981-347.57	ESTR EVMLRGA00BV6
X 301	75981-296.36	QUARZ
X 701	75981-331.67	KRISTALL-OSZILLATOR
X 5501	75981-347.52	QUARZ VSX 0794
X 6001	75981-331.68	KRISTALL-OSZILLATOR
X 6002	75981-320.11	QUARZ
	75981-347.21	**MONITORPLATTE**
D 803	75987-586.69	DIODE MA 142 WA
D 1601	75981-296.40	DIODE MA 8130 M
D 1603	75981-296.40	DIODE MA 8130 M
IC 801	75981-320.14	IC AN 2516 S
J 1601	75981-347.54	RFU BUCHSE
L 801	75987-551.40	SPULE 4-POL.
L 804	75987-460.01	SPULE 3-POL.
L 805	75987-551.40	SPULE 2-POL.
L 806	75987-551.48	SPULE 33UH
L 1601	75981-347.56	SPULE VLP 0307
L 1602	75981-347.56	SPULE VLP 0307
P 801	75987-247.18	STECKERLEISTE
P 803	75987-247.16	STECKERLEISTE
P 804	75987-247.11	STECKERLEISTE
P 1601	75981-348.77	STECKVERBINDUNG 2-POL.
PP 1601	75981-348.78	STECKVERBINDUNG 24-POL.
Q 801	75987-551.73	TRANS.2 SB 1462
Q 802	75987-459.04	TRANS.2 SD 968 A
Q 803	75981-296.39	TRANS.2 SA 1748
Q 804	75981-296.39	TRANS.2 SA 1748
R 1601 ⚠	75981-347.25	SICHERUNG
T 801 ⚠ ECXC2802B	75981-348.47	TRAFO
VR 801	75987-511.74	ESTR.220 OHM
VR 804	75981-320.21	ESTR. 2 MOHM
Z 1601 ⚠	75981-299.94	LITH.BATTERIE
	75981-347.33	**CCD PLATTE, FLEXIBLE**
B 291	75981-342.51	STECKVERBINDUNG 12P
D 291	75981-331.73	DIODE MA153
Q 291	75981-279.64	TRANS.2 SC 2295
	75981-347.34	**LINSENPLATTE, FLEXIBLE**
2	75981-277.09	FOTO-TRANS.SG 211 S
1	75981-331.74	FOTO SENSOR ON1004-R
	75981-347.15	**MIKROFONEINHEIT**
FP 4801	75981-342.51	STECKVERBINDUNG 12P
Q 4801	75981-304.71	TRANS.2 SD 601 A
Q 4802	75981-304.71	TRANS.2 SD 601 A
Q 4803	75981-304.71	TRANS.2 SD 601 A
	75981-347.19	**AV-BUCHSENPLATTE**
D 1501	75981-331.73	DIODE MA153
FP 1501	75981-348.82	STECKVERBINDUNG 9-POL
J 1501	75981-296.56	BUCHSE
L 1501	75981-332.54	SPULE VLP 0171
L 1502	75981-279.55	SPULE
L 1503	75981-331.77	SPULE VLP 0153
	75981-347.17	**AUSWURF / BLC PLATTE**
SW 511	75981-320.17	SCHALTER
	75981-332.24	**S/S PLATTE**
S 6702	75981-342.99	SCHALTER
	75981-347.18	**BEDIENPLATTE**
FP 501	75981-348.83	STECKVERBINDUNG 9-POL.
S 501	75981-348.84	SCHALTER
VR 501	75981-304.75	ESTR. 100 KOHM

ORDER NO. VMD9512M136

Service Manual

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List

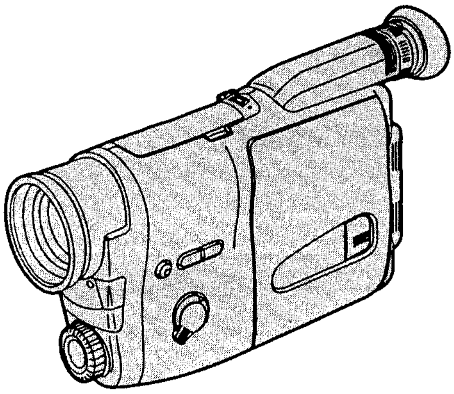
Panasonic VHS C PAL

HQ

VHS-C Movie

NV-RX1 EG/B A/EN

DL-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: Battery Pack; 4.8V DC AC Adaptor; 6.0V DC Consumption; 6.0W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7mm)
TAPE SPEED	SP mode: 23.39mm/s LP mode: 11.7mm/s (NV-RX1B/A/EN only) Record/Playback Time: SP mode: 45min. with NV-EC45SGXP LP mode: 90min. with NV-EC45SGXP (NV-RX1B/A/EN only)
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 0.5 Lux (Low Light Mode)
	LENS: 14:1 Wide-angle Power Zoom Lens with Digital AI Auto Focus, Auto Iris, Auto Focus System, F1.4 (3.9～54.6mm), Filter Diameter 43mm
	IMAGE SENSOR: 1/4 inch CCD Image Sensor
	VIEWFINDER: 0.5 inch Electronic Viewfinder

ITEM	SPECIFICATION
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: PHONO CONNECTOR; 1.0Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal-Mono)
	OUTPUT: PHONO CONNECTOR; −6dB, 47kΩ loaded/less than 1kΩ
OPERATING TEMPERATURE	0～40°C
OPERATING HUMIDITY	10～80%
WEIGHT	Approx. 750g (without Battery Pack)
DIMENSIONS	74(W)×143(H)×260(D) mm
STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. Cassette Adaptor 1 pc. Shoulder Strap 1 pc. DC Input Cable 1 pc. Battery for Cassette Adaptor Operation 1 pc. AC Cable 1 pc. AV Output Cable

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

© 1995 Matsushita Electric Industrial Co., Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

⚠ WARNING
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION 1

This Service manual contains techinical information which will allow service personneles to undrstand and service this model.
Section 1 pressents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your electrical adjustment as well disassemble and replacement procedures.
Section 3 contain block diagram which offers you information for checking and undrstanding each circuit.
Schematic diagrams which give you detailed information such as waveforms, vlotage data, function e.t.c...
Section 4 contain exploed views and parts list.

Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

Note 1: Adjustment Procedure for Mechanism-Chassis is separate volume from this model.
Please refer to following manunal for detail of adjustment procedure for Mechanism-Chassis.
Order number for adjustment procedure of Mechanism-Chassis : VMD9412M130

Note 2: Adjustment Procedure for Camera-unit is separate volume from this model.
Please refer to following manunal for detail of adjustment procedure for Camera.
Order number for adjustment procedure of Camera : VMD9512M137

Note 3: This Movie camera uses AC Adaptor is VSK0317C.
The Service Manual for AC Adaptor is VSK0317C is separate volume.
Please refer to following manual for detail of VSK0317C.
Order number for AC Adaptor is VSK0317C. : VMD9501M104.

INTRODUCTION 2

NOTE : NV-RX1EG

NV-RX1EG series has three versions depends on countries.
Detail as follws.

Model-No(Version)	NV-RX1EG	NV-RX1EG (V)	NV-RX1EG (M)
PACKING CASE	VPG8338	VPG8340	VPG8339
OPERATION INSTRUCTION	VQT6495(GERAMAN/ITALIAN)	VQT6495(GERAMAN/ITALIAN) VQT6445(ENGLISH/FREANCH/ DUTCH/RUSSIAN)	VQT6444(ENGLISH/DANISH) VQT6443(FREANCH/SPANISH DUTCH/SEWDISH)

NOTE : NV-RX1EN

NV-RX1EN series has three versions depends on countries.
Detail as follws.

Model-No(Version)	NV-RX1EN	NV-RX1ENH
PACKING CASE	VPG8343	VPG8344
AC-CABLE	VJA0664	VJA0940

CONTENTS

TECHNICAL INFORMATION

SECTION 1 GENERAL DESCRIPTIONS 1-1

SECTION 2 ADJUSTMENT PROCEDURES 2-1

- 2-1. DISASSEMBLY PROCEDURES 2-1
- 2-2. DISASSEMBLY PROCEDURES OF LENS UNIT 2-5
- 2-6. ELECTRICAL ADJUSTMENT PROCEDURES FOR E.V.F. SECTION 2-7
- 2-7. CIRCUIT BOARD LAYOUT 2-9

SECTION 3 BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

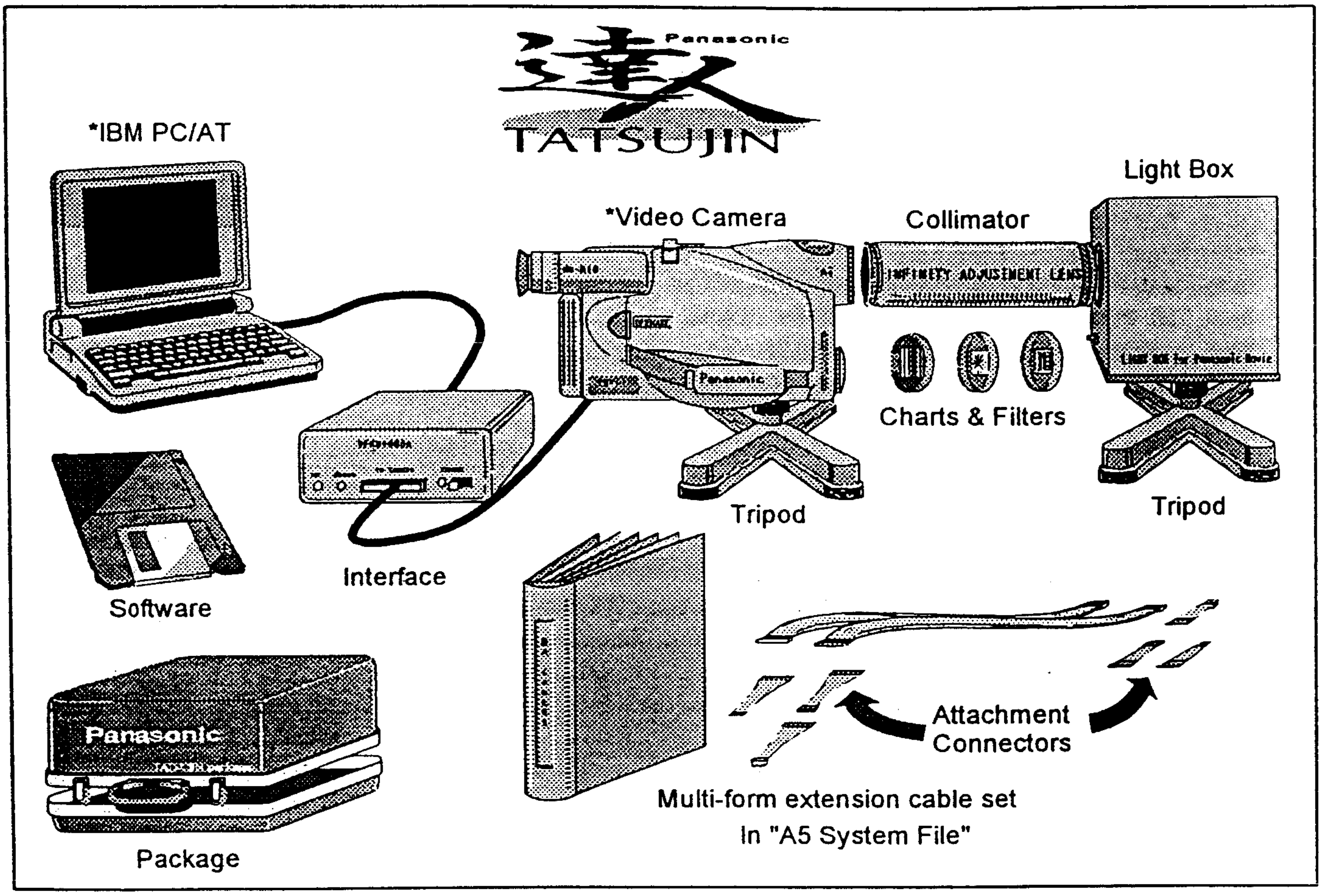
- 3-1. ABBREVIATIONS 3-1
- 3-2. OVERALL BLOCK DIAGRAM 3-3
- 3-3. SENSOR BLOCK DIAGRAM 3-4
- 3-4. PROCESS BLOCK DIAGRAM 3-6
- 3-5. LENS DRIVE BLOCK DIAGRAM 3-9
- 3-6. POWER BLOCK DIAGRAM 3-11
- 3-7. SYSTEM CONTROL & SERVO BLOCK DIAGRAM 3-13
- 3-8. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM 3-16
- 3-9. SENSOR SCHEMATIC DIAGRAM 3-19
- 3-10. LENS DRIVE SCHEMATIC DIAGRAM 3-22
- 3-11. PROCESS SCHEMATIC DIAGRAM 3-25
- 3-12. POWER SCHEMATIC DIAGRAM 3-28
- 3-13. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM 3-33
- 3-14. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM 3-37
- 3-15. SUB SERVO SCHEMATIC DIAGRAM 3-41
- 3-16. AUDIO SCHEMATIC DIAGRAM 3-43
- 3-17. EVF SCHEMATIC DIAGRAM 3-45
- 3-18. EVF & DC JACK C.B.A. 3-45
- 3-19. DC JACK SCHEMATIC DIAGRAM 3-47
- 3-20. CAMERA/MAIN [SENSOR, PROCESS, LENS DRIVE, POWER, SYSTEM CONTROL & SERVO, SUB SERVO, LUMINANCE/CHROMINANCE & HEAD AMP and AUDIO Sections] C.B.A. 3-51
- 3-21. CCD FLEXIBLE CARD SCHEMATIC DIAGRAM 3-55
- 3-22. CCD FLEXIBLE CARD C.B.A. 3-55
- 3-23. AV JACK SCHEMATIC DIAGRAM 3-56
- 3-24. AV JACK C.B.A. 3-56
- 3-25. MIC SCHEMATIC DIAGRAM 3-57
- 3-26. MIC C.B.A. 3-57
- 3-27. FRONT OPERATION SCHEMATIC DIAGRAM 3-58
- 3-28. FRONT OPERATION C.B.A. 3-58

SECTION 4 EXPLODED VIEWS & PARTS LIST 4-1

- 4-1. EXPLODED VIEWS 4-1
  1. VTR MECHANISM SECTION (1) 4-1
  2. VTR MECHANISM SECTION (2) 4-2
  3. VTR MECHANISM SECTION (3) 4-3
  4. CAMERA LENS SECTION 4-4
  5. FRAME & CASING PARTS SECTION 4-5
  6. PACKING PARTS & ACCESSORIES SECTION 4-6
- 4-2. MECHANICAL REPLACEMENT PARTS LIST 4-7
- 4-3. ELECTRICAL REPLACEMENT PARTS LIST 4-9

Technical Information

Subject: Introduction of new service device kit "TATSUJIN"(VED95TTJ).


Panasonic
TATSUJIN
*IBM PC/AT
Light Box
*Video Camera
Collimator
INFINITY ADJUSTMENT LENS
Charts & Filters
Tripod
Tripod
Interface
Software
Attachment Connectors
Multi-form extension cable set In "A5 System File"
Panasonic
Package

A new service device kit for Video Camera,"TATSUJIN" Kit, is now avaiable from Panasonic. "TATSUJIN" is a Japanese word whic means a specialist, expert, or master in English. This naming was made because the kit will make you a"TATSUJIN" of Panasonic Video Camera servicing. The "TATSUJIN" itconsists ofthe following 3 items which are simply organized in a small package. All of which will drastically improve your productivity of Video Camera servicingin terms of Diagnosis, Adjustment, and Confirmation.

1. PC-EVR. (Interface, Software, Connecting Cables)

It connect a Camera to your IBM PC/AT so that the adjustment and trouble-shooting can be done easily on PC screen.
The time used to taken by the camera adjustment will be reduced more than 60%. In addition, Its diagnosis support function helps you to improve the sservice efficiency drastically.
The conventional EVR(VFK0644) will be replaced by this new computer-aided system.

Note:*PC and *Camera are not included in the kit. The minimum requirement of the PC is 80286 CPU, 1MB RAM, and MS-DOS 3.2. For further information, please contact Video Equipment Division.

2. Optical Set. (Collimator, Charts & Filters, Light Box, Tripods)

All of the opical devices which are indispensable to service a camera but used to take a hugg space to set up, are now drastically shrunk into a compact "Desk-top space".
Now you can easily aim various charts, COLOR-BAR, GRAY-SCALE, HUNTING, and WHITE, by simply attaching them to the collimator which is inserted in a compact light box.
So that you do not have to worry about restricting external light and measuring the distance from the chart.

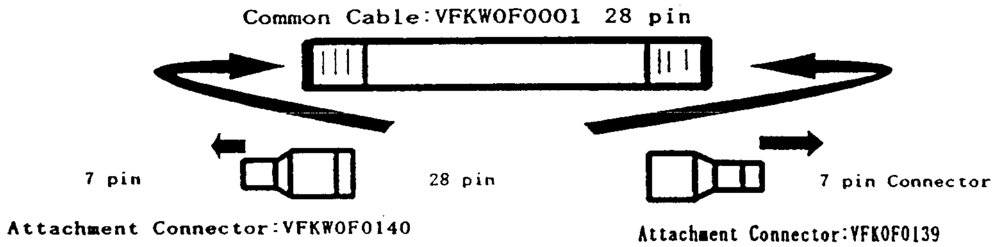
3. Multi-form Extension Cable Set.

Now you can make any kind of extension cable required, by simply changing the attachment connectors.
All of the connectors which cover all extension cables since 1990, are simply organized in a "A5 System file".
When you need a new connectot for a new model it can be purchased at extremely low price.

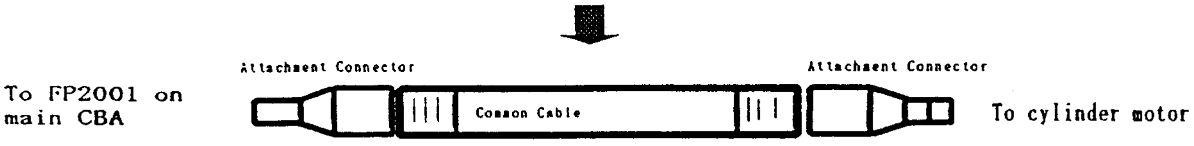
Note: Example for new type extension cables.

How to use the new type extension cables are as follows.
(This model requires new extension cables between FP2001 (Main) and CYLINDER.)

1. Attach the attachment connector (VFKW0F0139 & VFKW0F0140) to Common Cable (VFKW0F0001) as follows. Please check the direction of conductors between attachment connector and Common Cable.


Common Cable:VFKWOF0001 28 pin
7 pin
28 pin
7 pin Connector
Attachment Connector:VFKWOF0140
Attachment Connector:VFKOF0139

2. Connect the attachment connector (VFKW0F0139) to the Cylinder Motor.
3. Connect the attachment connector (VFKW0F0140) to the FP2001 on Main C.B.A.


Attachment Connector
Attachment Connector
To FP2001 on main CBA
Common Cable
To cylinder motor

Service caution.

1-1. Service Extension Cables.

Use the following extension cables when checking or adjusting individual circuit bords.

Ref	Part No.	PIN	Part Name	Connection	Q'ty	Remaks
①	VFK0670	18	Flat Cable	FP6001(Main) ~ Mech. Chassis	1	
②	VFK0670	18	Flat Cable	FP2002(Main) ~ Capstan Motor	1	
③	VFK0978	6	Flat Cable	FP6002(Main) ~ Mech. Chassis	1	
④	VFK0929	12	Flat Cable	PP201(SENSOR) ~ CCD	1	
⑤	VFK0980	9	Flat Cable	FP4001(Main) ~ A/C HEAD	1	
⑥	VFK0913	18	Flat Cable	FP701 (Main) ~ LENS UNIT	1	
⑦	VFKW0F0139	7	Attachment Connector	FP2001(Main) ~ CYLINDER	1	Included in Tatsujin-Kit
	VFKW0F0140	7	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑧	VFK0668	24	Extension Cable	PS1001(Main) ~ PP1601	1	

How to use extension cables.

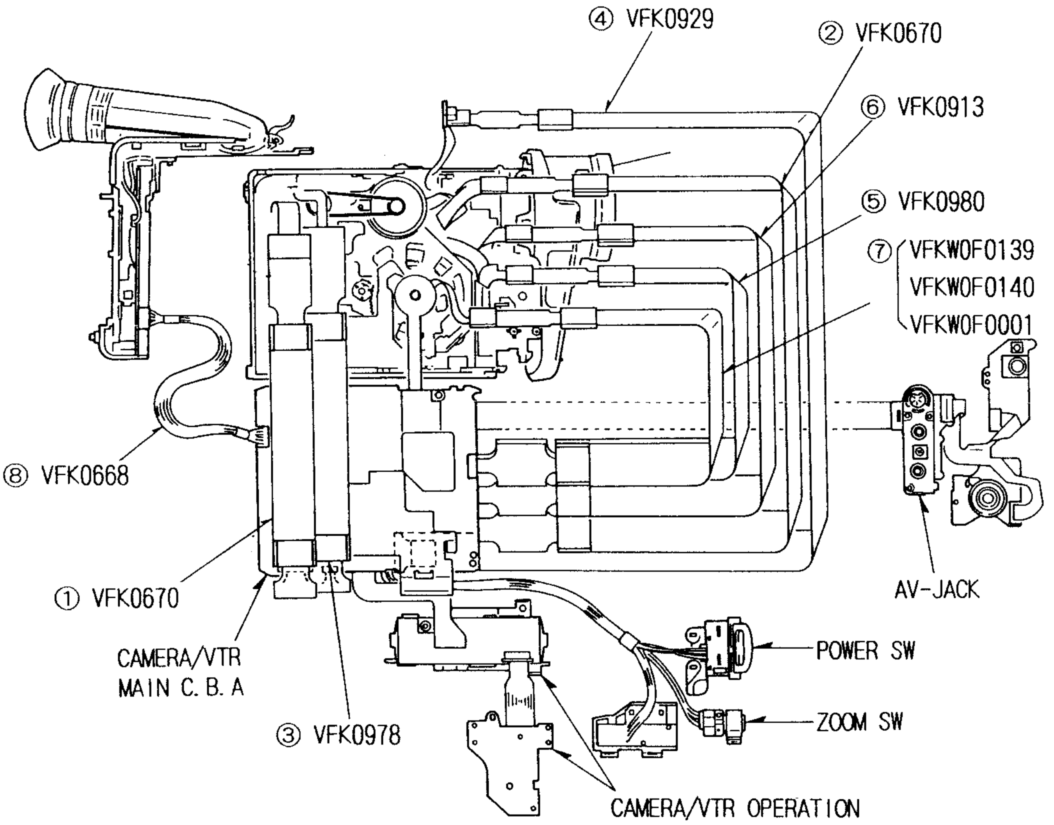

④ VFK0929
② VFK0670
⑥ VFK0913
⑤ VFK0980
⑦ VFKW0F0139
VFKW0F0140
VFKW0F0001
⑧ VFK0668
AV-JACK
① VFK0670
CAMERA/VTR
MAIN C.B.A
POWER SW
ZOOM SW
③ VFK0978
CAMERA/VTR OPERATION

Fig. T1

Note 1: For Serviceing, remove the 4 parts from the side case(L).

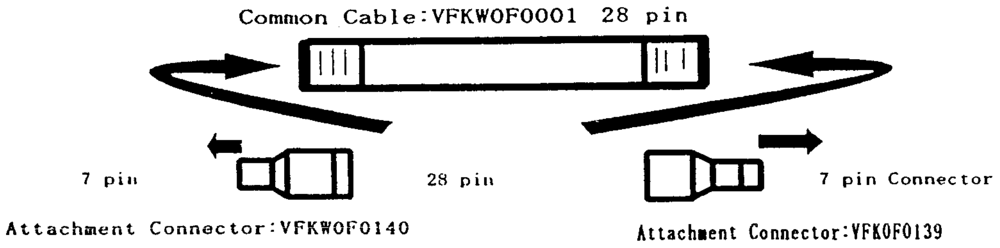
1). AV-JACK
2). POWER SW
3). ZOOM SW
4). CAMERA/VTR OPERATION

Note:2

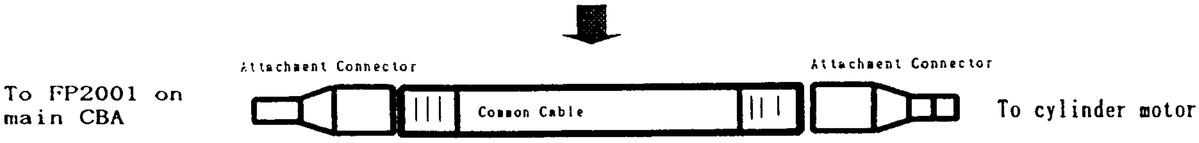
How to use the new type extension cables are as follows.

(This model used new extension cables between FP2001(Main) and CYLINDER.)

1. Attach the attachment connector(VFKW0F0139 & VFKW0F0140) to Common Cable(VFKW0F0001) as follows. Please check the direction of conductors between attachment connector and Common Cable.


Common Cable:VFKWOF0001 28 pin
7 pin
28 pin
7 pin Connector
Attachment Connector:VFKWOF0140
Attachment Connector:VFK0F0139

2. Connect the attachment connector(VFKW0F0139) to the Cylinder Motor.
3. Connect the attachment connector(VFKW0F0140) to the FP2001 on Main C.B.A.


To FP2001 on main CBA
Attachment Connector
Common Cable
Attachment Connector
To cylinder motor

1-2. Service Extension Cables. (In case of Tatsujin Cable)

Use the following extension cables when checking or adjusting individual circuit bords.

Ref	Part No.	PIN	Part Name	Connection	Q'ty	Remaks
①	VFKW0F0033	18	Attachment Connector	FP6001(Main) ~ Mech.Chassis	1	Included in Tatsujin-Kit
	VFKW0F0034	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
②	VFKW0F0033	18	Attachment Connector	FP2002(Main) ~ Capstan Motor	1	
	VFKW0F0034	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
③	VFKW0F0128	6	Attachment Connector	FP6002(Main) ~ Mech.Chassis	1	
	VFKW0F0127	6	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
④	VFKW0F0118	12	Attachment Connector	PP201 (SENSOR) ~ CCD	1	
	VFKW0F0117	12	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑤	VFKW0F0132	9	Attachment Connector	FP4001(Main) ~ A/C HEAD	1	
	VFKW0F0131	9	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑥	VFKW0F0111	18	Attachment Connector	FP701 (Main) ~ LENS UNIT	1	
	VFKW0F0112	18	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑦	VFKW0F0139	7	Attachment Connector	FP2001(Main) ~ CYLINDER	1	
	VFKW0F0140	7	Attachment Connector		1	
	VFKW0F0001	28	Common Cable		1	
⑧	VFK0668	24	Extension Cable	PS1001(Main) ~ PP1601	1	

How to use extension cables.

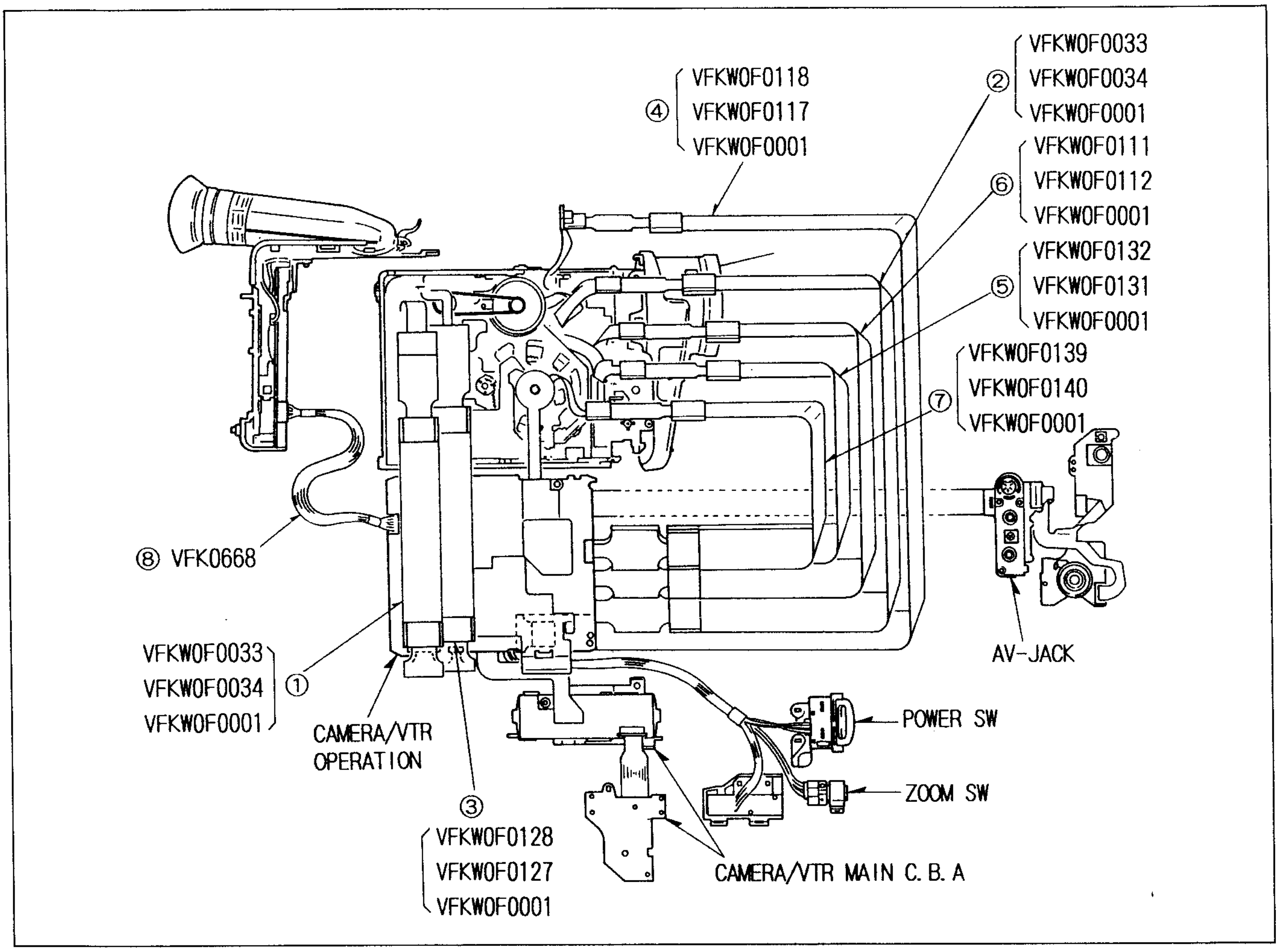

④ VFKW0F0118
VFKW0F0117
VFKW0F0001
② VFKW0F0033
VFKW0F0034
VFKW0F0001
⑥ VFKW0F0111
VFKW0F0112
VFKW0F0001
⑤ VFKW0F0132
VFKW0F0131
VFKW0F0001
⑦ VFKW0F0139
VFKW0F0140
VFKW0F0001
⑧ VFK0668
AV-JACK
① VFKW0F0033
VFKW0F0034
VFKW0F0001
CAMERA/VTR OPERATION
POWER SW
ZOOM SW
③ VFKW0F0128
VFKW0F0127
VFKW0F0001
CAMERA/VTR MAIN C.B.A

Fig. T2

The Built-in Lithium Battery

1. GENERAL DESCRIPTION

A built-in rechargeable lithium battery maintains the operation of the built-in clock when the Movie Camera is turned off. When the Movie Camera is in operation, this battery is charged automatically.
However, if the Movie Camera is not used for a very long time, the lithium battery can become exhausted. In this case, the "⊜" Indication in the Viewfinder flashes and the date returns to the initial Indication "1.1.1990".

2. HOW TO CHARGE THE LITHIUM BATTERY

■ How to Charge the Built-in Lithium Battery

If the "⊜" Indication in the Viewfinder flashes for approx. 10 seconds when you turn the Movie Camera on, the lithium battery is exhausted and must be charged as follows:

1. **Connect the Movie Camera to the AC Adaptor and leave it in this condition for several hours. It is not necessary to turn the Movie Camera on.**
   - After the lithium battery has been charged for approx. 8 hours, it can maintain the operation of the clock for approx. 3 months.
   - After charging the lithium battery, the "⊜" Indication still flashes to remind you to set the date and time as explained on page 56 of the Operating Instructions.

3. HOW TO REPLACE THE LITHIUM BATTERY

(PROCEDURES)

1. Remove the EVF C.B.A. from Rear Case.
   (Remove the 4 Screw from Rear Frame)
2. Unsolder the Lithium battery "VL2330/1HF" and then replace the new one. (See Fig. B1)

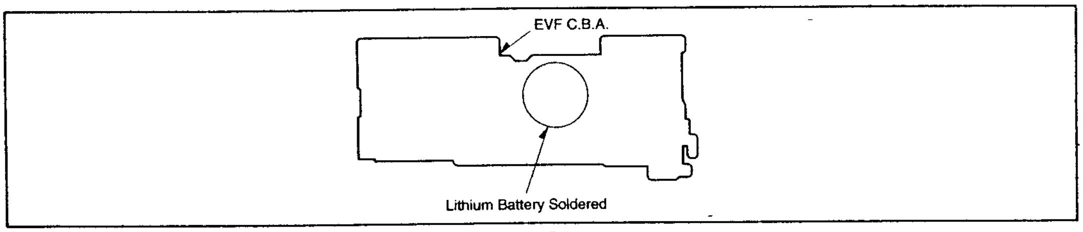


Fig. B1

NOTE:

The lithium battery is a critical component (Type No.: VL2330/1HF Manufactured by Panasonic.)
It must never be subjected to excessive heat or discharge.
It must therefore only be fitted in equipment designed specifically for its use.
Replacement batteries must be of the same type and manufacturer.
They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
Do not attempt to re-charge the old battery or re-use it for any other purpse.
It should be disposed of in waste products destined for burial rather than incineration.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's instructions.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

General Description

This Movie Camera has SERVICE INFORMATION DISPLAY function which facilitates quick trouble-shooting. You can turn on the Service Information Display, by performing the following procedures. This causes the Service Information to be displayed on the EVF.(There are 4 kinds of SERVICE MODE, as shown below.)In the OSD Line Output Mode, Service Information can also be viewed on the TV.

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
OSD Line Output MODE	• Checking the EVF information on the TV monitor.	DATE/TIME SET (TOP PANEL)	RESET (TOP PANEL)	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (Push following keys simultaneously for at least 2 sec.)		
SERVICE MODE 1	• Remaining Battery A/D Value • Safety Device • Capstan/Cylinder injuctions	DATE/TIME SHIFT (TOP PANEL)	RESET (TOP PANEL)	DATE TIME (SIDE PANEL)

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 1 , Push [DATE/TIME] key.(SIDE PANEL)
SERVICE MODE 2	• Reference Voltage A/D Value • Mechanism position • Serial key code.	DATE/ TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 2 , Push [DATE/TIME] key.(SIDE PANEL)
SERVICE MODE 3	• ERROR CODE Display	DATE/ TIME

MODE NAME	FUNCTION	How to turn it ON. (After chosing SERVICE MODE 3 , Push [DATE/TIME] key.(SIDE PANEL)
SERVICE MODE 4	•PG SHIFTER ADJUSTMENT	DATE/ TIME

ERROR CODE DISPLAY

When undesirable conditions occur, the "ERROR CODE" will automatically be displayed on the EVF, Also the CAMERA LED will flash for a short time, then the power will be turned off. By turning on Service Mode 3, you can check to see what kind of undesirable condition occured, even after the ERROR CODE has disappeared. (To perform the Service Mode 3, do not disconnect the AC adoptor or battery pack, after undesiable condition occured.) To clear the ERROR CODE, disconnect the AC Main Lead or the battery has been diconnected.

This movie camera has the built in Rechargeble Lithum Battery. It maintain the operation of the built-in clock and error code for the Service Mode when the Movie camera turn off. To clear the error code,make shoot the IC6001 pin 25 to GND for reset the IC6001. Indication for built in clock return to initial condition make make reset the IC6001.

Note 1:
Contents of all Service Mode(Service Mode 1~Service Mode 4) same as privious models.
So we will issure Techincal information for Service Mode.
Order Number for this document is as follows.

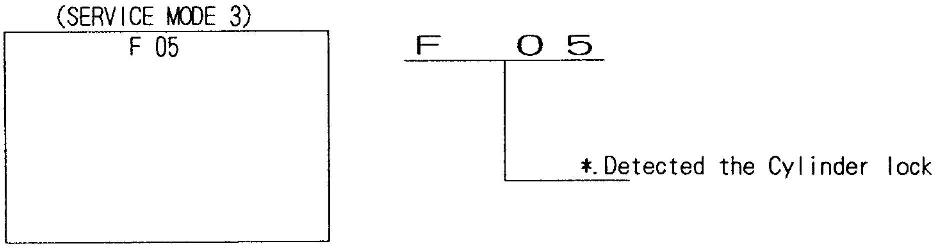
Order Number for Techinical Information : VMD9512M138

Note 2 : Contents of all Service Mode(Service Mode 1~Service Mode 4) same as privious models.
We will issure Techincal information for Service Mode.
But Service Mode 3 is Error code Display. It is important for Service.
So this service manual contain for this information.

SERVICE MODE 3

After undesirable conditions occured, you can see what kind of error occured by turning on the Service Mode 3.
When you turn on the service mode 3, the error code is displayed on E.V.F.
Also the Camera LED is flashed according to Error code.

Display :
(Example)



Display position ⇒ O : O O. O O (The position of linear time counter)
(See Fig. I)
Blank (No display)
01~05, 10~11, 51, 52
F or U

DISPLAY	CONDITION	The Power off timing
F 0 1	T-REEL LOCK	After 1 minute (flashing the LED)
F 0 2	S-REEL LOCK	
F 0 3	UNLOADING LOCK	
F 0 4	LOADING LOCK	
F 0 5	CYLINDER LOCK	
F 5 1	FOCUS MOTOR LOCK	-----------
F 5 2	ZOOM MOTOR LOCK	
U 1 0	DEW DETECTION	After 18 minutes(flashing the LED)
U 2 0	HEAD CLOGGING	Not turning off

Fig. I Error Code

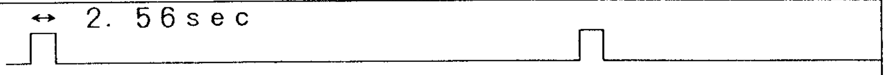
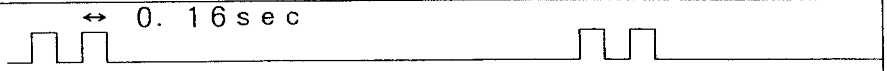
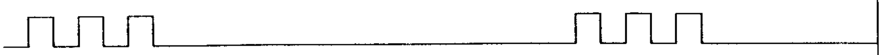
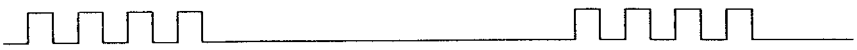
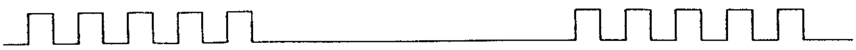
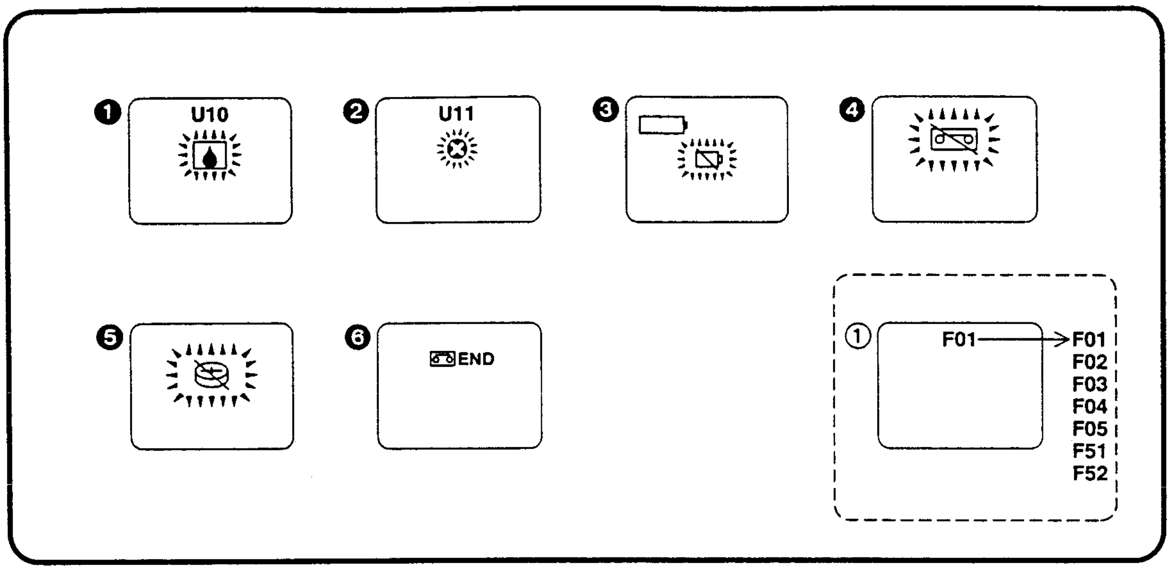
Lock Condition	Power LED Flashing Timming
T-REEL LOCK (F01)	 ↔ 2. 56sec
S-REEL LOCK (F02)	 ↔ 0. 16sec
UNLOADING LOCK (F03)	
LOADING LOCK (F04)	
CYLINDER LOCK (F05)	
OTHERS (U10 & U11)	Power LED is flashed at 1 Hz timing

Fig. J LED Flashing Timing

SECTION 1
GENERAL DESCRIPTIONS



Indications in the Viewfinder

■ Warning/Alarm Indications

❶ Condensation

❷ Video Head Clogging

❸ Remaining Battery Power

When the last segment of this indication has disappeared, the "CAMERA" Indication Lamp flashes for a few seconds, and then the Movie Camera automatically switches off. Replace the Battery Pack with a fully charged one.

❹ Tape

When no video cassette is inserted, or when the tab of the inserted video cassette is broken out, this indication flashes. Insert a video cassette with intact tab.

❺ Built-in Lithium Battery

The built-in Lithium Battery is exhausted; charge it.

❻ End of the Tape

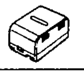
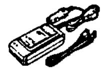
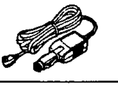
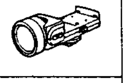
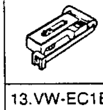
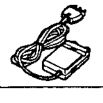
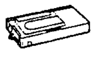
When the tape has reached its end, this indication lights. Insert a new video cassette.

① Error Code

(Error codes are information for service personnel.) If the "F" Indication appears in the Viewfinder, some malfunction has occurred. If the indicated error code is between "F01" and "F05", the Movie Camera will automatically turn itself off one minute after the "CAMERA" Lamp has started to flash. (If the indication is "F51" or "F52", the Movie Camera will not turn off automatically.)

If one of the Error Codes is displayed, write it down and tell it to the service personnel.

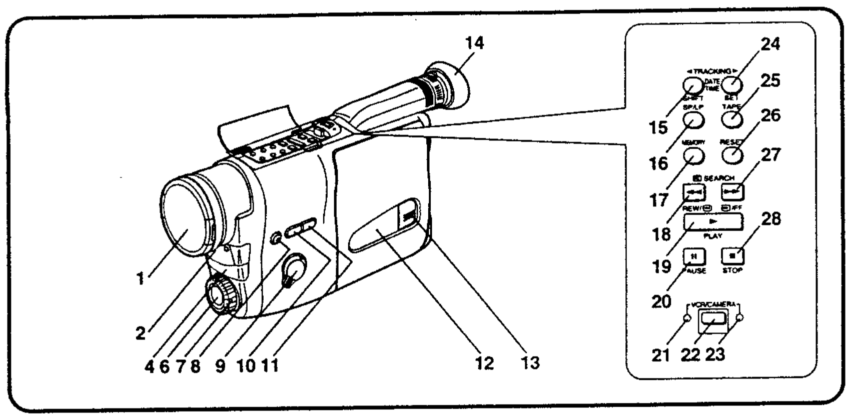
F01: Locked Take Up-Reel
F02: Locked Supply-Reel
F03: Locked Unloading Mechanism
F04: Locked Loading Mechanism
F05: Locked Cylinder
F51: Locked Focus Motor
F52: Locked Zoom Motor

1. VW-VBS10E VW-VBH10E 	2. VW-VBS20E VW-VBH20E 	3. VW-KBC2E 	4. VW-ACC2E 	5. VW-K10E 	6. VZ-LDCS13E 
7. VW-SK9E 	8. VW-LF43E 	9. VZ-CT55E 	10.VZ-CT75E 	11.VW-RF7E 	12.VW-EC310E
13.VW-EC1E 	14.VW-TCA7E 	15.VW-VT1E 	16.VW-VT1B 		

Optional Accessories

1. VW-VBS10E (Ni-Cd Battery Pack)
   VW-VBH10E (Ni-MH Battery Pack)
2. VW-VBS20E (Ni-Cd Battery Pack)
   VW-VBH20E (Ni-MH Battery Pack)
3. Car Battery Charger
4. Car Battery Cord
5. 5-Pin Synchro Cord
6. Video DC Light
7. Shoe Adaptor
8. Filter Kit
9. Standard Tripod
10. Deluxe Tripod
11. RF Adaptor
12. Editing Controller
13. Editing Controller
14. Cassette Adaptor
15. Video Titler
16. Video Titler (Hong Kong Only)

Notes:
- Some accessories are not available in some countries.
- To mount the Video DC Light on the Movie Camera, the Shoe Adaptor is necessary.



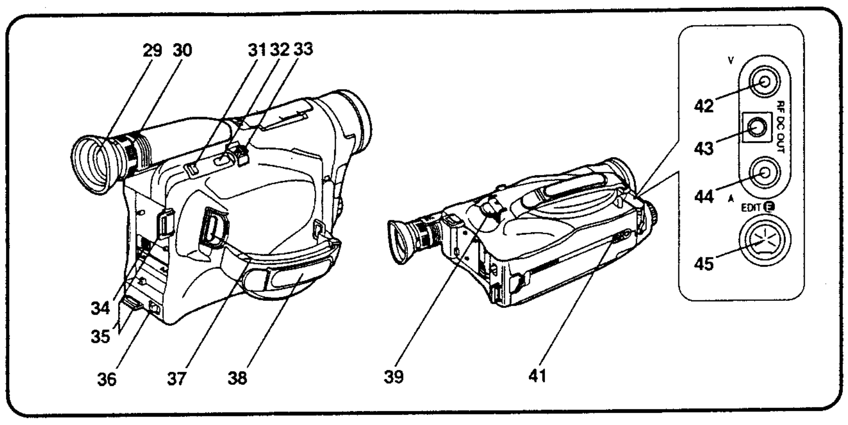
Controls and Components

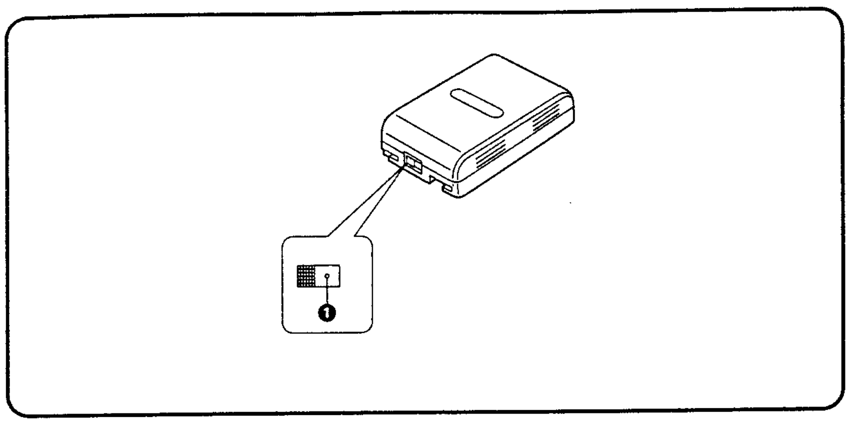
1 **Lens Cap**
2 **Microphone**
4 **White-Balance Sensor**
6 **[FOCUS] Button**
7 **Focus Ring**
8 **[FADE] Button**
9 **[AE] Selector**
10 **[DATE/TIME] Button**
11 **[W.B] Button**
12 **Cassette Compartment Cover**
13 **Cassette Compartment [LOCK] Button**

14 **Eyecup**
15 **[DATE/TIME/SHIFT • ◄ TRACKING] Button**
16 **[SP/LP] Button**
17 **[MEMORY] Button**
18 **[◄◄] Button**
19 **[►] Button**
20 **[❚❚] Button**
21 **"VCR" Indication Lamp**
22 **[VCR/CAMERA] Button**
23 **"CAMERA" Indication Lamp**
24 **[DATE/TIME/SET • TRACKING ►] Button**
25 **[TAPE] Button**
26 **[RESET] Button**
27 **[►►] Button**
28 **[■] Button**

29 **Viewfinder**
30 **Eyepiece Corrector Ring**
31 **[EJECT ▲] Lever**
32 **[BACKLIGHT] Button**
33 **[W • T] Zoom Lever**
34 **[DC IN] Socket**
35 **Shoulder Strap Holders**
36 **[BATTERY EJECT ►] Lever**
37 **Start/Stop Button**

38 **Grip Belt**
39 **[POWER] Switch**
41 **Tripod Receptacle**
42 **[VIDEO OUT] Socket**
43 **[RF DC OUT] Socket**
44 **[AUDIO OUT] Socket**
45 **[EDIT] Socket**





■ Charging Time and Maximum Time for Continuous Shooting in the Manual Shooting Mode

Battery Pack No.	Charging Time	Max. Continuous Shooting Time	
		NV-RX1EN	NV-RX2EN
Supplied	60 min.	min.	min.
VW-VBS10E	65 min.	min.	min.
VW-VBS20E	130 min.	min.	min.
VW-VBH10E	80 min.	min.	min.
VW-VBH20E	160 min.	min.	min.

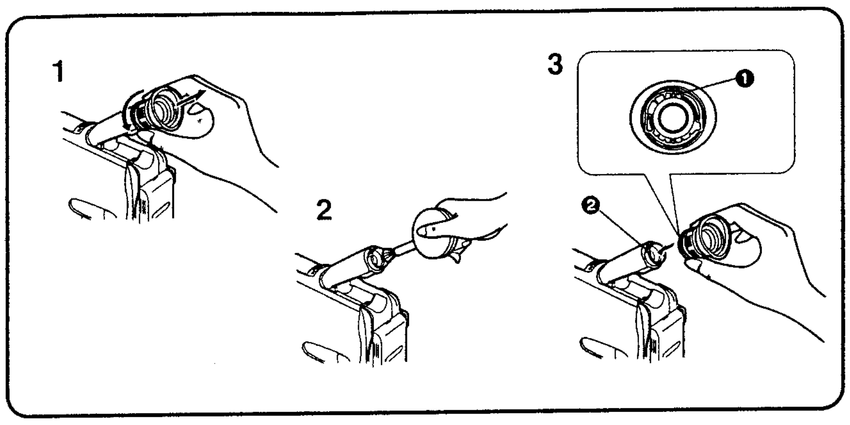
(The times shown in the above chart are approximations.)

Notes:
- Depending on the condition of the Battery Pack, the charging time may be longer than listed above.
- The use of the zoom and other functions increases the power consumption, so that the actual shooting time per Battery Pack may actually be 30%–50% less than the max. continuous shooting time listed above.
- When turning on the Movie Camera after attaching the Battery Pack, the Remaining Battery Power Indication initially indicates a fully charged Battery Pack regardless of its actual charging condition. Approx. 1 minute later, the indication changes and shows the approximate battery power actually remaining.

How to charge a Battery Pack if its operation time has become too short for practical use, or if it has been stored for a long time:
Continue charging for 24 hours even after the Charging Indication Lamp on the AC Adaptor goes out.
(If this does not result in an operation time sufficient for practical use, the service life of this Battery Pack has reached its end. Replace it with a new one.)

■ Using the Charge Confirmation Marker

Use this marker to distinguish between charged and discharged Battery Packs.
For example, slide the knob so that the dot ❶ is visible after the charging is completed.



How to Clean the Movie Camera

1 How to Clean the Viewfinder

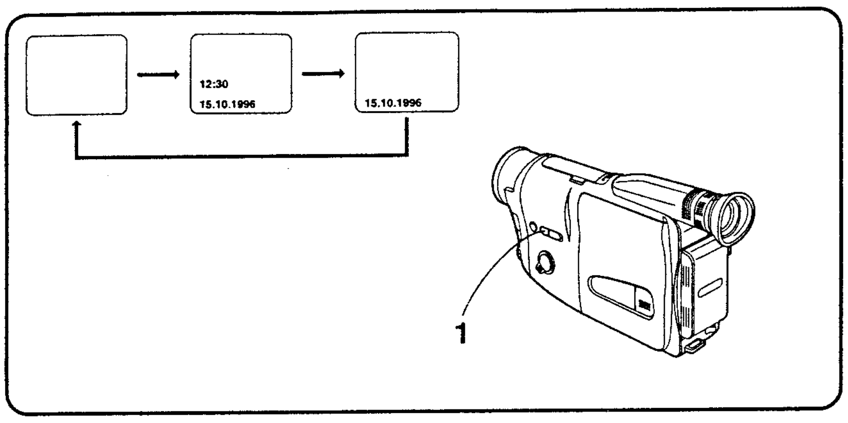
1 **Turn the Viewfinder counterclockwise and pull it off.**

2 **Remove dust with a blower brush (not supplied).**

3 **To re-attach the Viewfinder, align the U-shaped part ❶ with the groove ❷, insert the Viewfinder and then turn it clockwise.**

2 How to Clean the Movie Camera Body and Lens

Notes:
1. Do not use benzine, thinner or other chemicals for cleaning, because they could change the colour and damage the surface of the camera body.
2. When using a chemically treated cloth for cleaning, carefully follow the instructions for its use.
   - Wipe the Movie Camera with a clean, dry cloth. Never use cleaning fluid or other chemicals.
   - Clean the lens only with a blower brush (used for photo cameras) or special lens cleaning tissue (used for glasses and cameras).



■ If you Make a Mistake During Setting, Restart from Step 3.

■ Changing the Figures of the Date/Time Indication

By pressing the [SET] Button repeatedly, the Date/Time Indication can be changed in the following order:

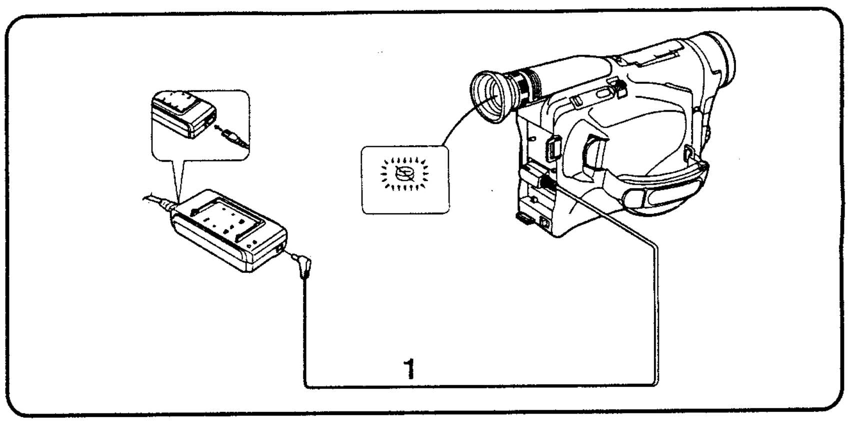
Year: 1990→1991→ ...... →2089→1990→...
Month: 1→2→ .... →12→1→...
Day: 1→2→ .... →31→1→...
Hour: 0→1→ .... →23→0→...
Minute: 00→01→ .... →59→00→...

2 How to Insert and Delete the Date and Time

You can insert (and delete) the Date and Time Indications during shooting and when in the Shooting Pause Mode.

1 **Press the [DATE/TIME] Button.**
- By pressing this button repeatedly, you can change the Date/Time Indication in the Viewfinder in the following order. Select the desired indication.

12:30
→No indication→15.10.1996→15.10.1996
Date and Time   Date only



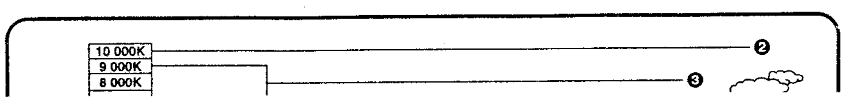
3 The Built-in Lithium Battery

A built-in rechargeable lithium battery maintains the operation of the built-in clock when the Movie Camera is turned off. When the Movie Camera is in operation, this battery is charged automatically.
However, if the Movie Camera is not used for a very long time, the lithium battery can become exhausted. In this case, the "🕓" Indication in the Viewfinder flashes and the date returns to the initial Indication "1.1.1990".

■ How to Charge the Built-in Lithium Battery

If the "🕓" Indication in the Viewfinder flashes for approx. 10 seconds when you turn the Movie Camera on, the lithium battery is exhausted and must be charged as follows:

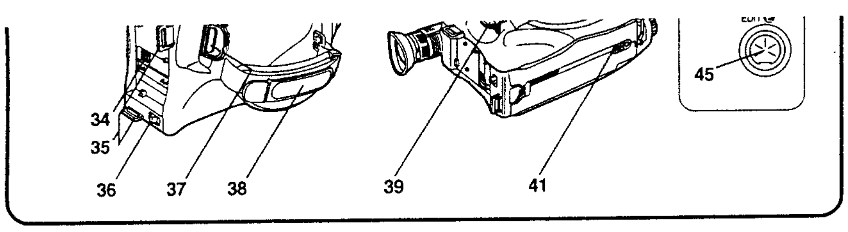
1 **Connect the Movie Camera to the AC Adaptor and leave it in this condition for several hours. It is not necessary to turn the Movie Camera on.**
- After the lithium battery has been charged for approx. 8 hours, it can maintain the operation of the clock for approx. 3 months.
- After charging the lithium battery, the "🕓" Indication still flashes to remind you to set the date and time as explained on page 56.

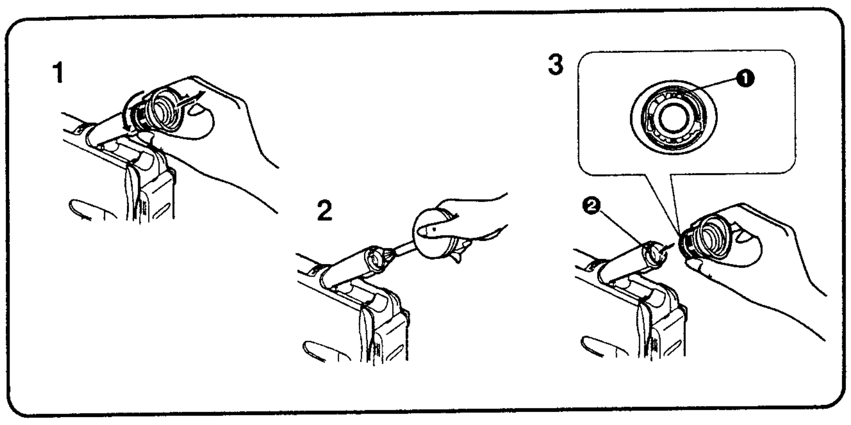


■ Shooting and Playback Indications

❽ Shooting Mode (large indication)
❾ Shooting Mode (small indication)

⓱ Fast Forward/Cue Mode
⓲ Rewind/Review/Camera Search Mode





How to Clean the Movie Camera

1 How to Clean the Viewfinder

1 **Turn the Viewfinder counterclockwise and pull it off.**

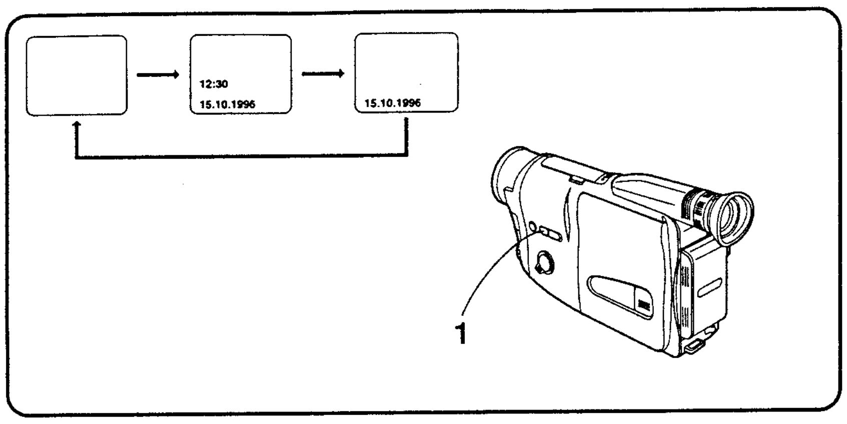
2 **Remove dust with a blower brush (not supplied).**

3 **To re-attach the Viewfinder, align the U-shaped part ❶ with the groove ❷, insert the Viewfinder and then turn it clockwise.**

2 How to Clean the Movie Camera Body and Lens

Notes:

1. Do not use benzine, thinner or other chemicals for cleaning, because they could change the colour and damage the surface of the camera body.
2. When using a chemically treated cloth for cleaning, carefully follow the instructions for its use.
   - •Wipe the Movie Camera with a clean, dry cloth. Never use cleaning fluid or other chemicals.
   - •Clean the lens only with a blower brush (used for photo cameras) or special lens cleaning tissue (used for glasses and cameras).



VW-VBH10E	80 min.	min.	min.
VW-VBH20E	160 min.	min.	min.

(The times shown in the above chart are approximations.)

Notes:

- •Depending on the condition of the Battery Pack, the charging time may be longer than listed above.
- •The use of the zoom and other functions increases the power consumption, so that the actual shooting time per Battery Pack may actually be 30%–50% less than the max. continuous shooting time listed above.

Continue charging for 24 hours even after the Charging Indication Lamp on the AC Adaptor goes out.
(If this does not result in an operation time sufficient for practical use, the service life of this Battery Pack has reached its end. Replace it with a new one.)

■ Using the Charge Confirmation Marker

Use this marker to distinguish between charged and discharged Battery Packs.
For example, slide the knob so that the dot ❶ is visible after the charging is completed.

2 How to Insert and Delete the Date and Time

You can insert (and delete) the Date and Time Indications during shooting and when in the Shooting Pause Mode.

1 **Press the [DATE/TIME] Button.**

- •By pressing this button repeatedly, you can change the Date/Time Indication in the Viewfinder in the following order. Select the desired indication.

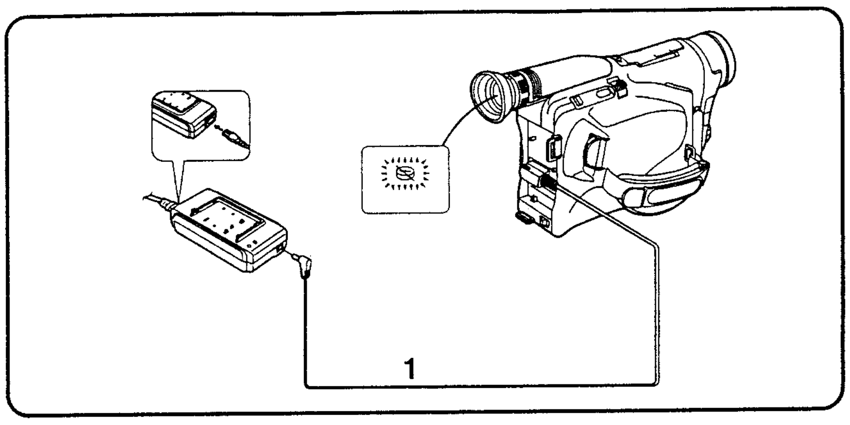
```
                    12:30
→No indication→15.10.1996→15.10.1996—
                   Date and    Date only
                   Time
```

■ If you Make a Mistake During Setting, Restart from Step 3.

■ Changing the Figures of the Date/Time Indication

By pressing the [SET] Button repeatedly, the Date/Time Indication can be changed in the following order:

Year: 1990→1991→ ...... →2089→1990→...
Month: 1→2→ .... →12→1→...
Day: 1→2→ .... →31→1→...
Hour: 0→1→ .... →23→0→...
Minute: 00→01→ .... →59→00→...



3 The Built-in Lithium Battery

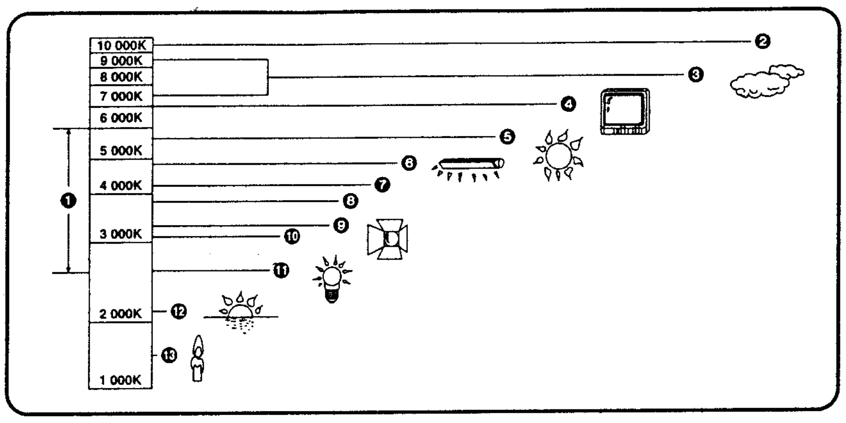
A built-in rechargeable lithium battery maintains the operation of the built-in clock when the Movie Camera is turned off. When the Movie Camera is in operation, this battery is charged automatically.
However, if the Movie Camera is not used for a very long time, the lithium battery can become exhausted. In this case, the "⊜" Indication in the Viewfinder flashes and the date returns to the initial Indication "1.1.1990".

■ How to Charge the Built-in Lithium Battery

If the "⊜" Indication in the Viewfinder flashes for approx. 10 seconds when you turn the Movie Camera on, the lithium battery is exhausted and must be charged as follows:

1 **Connect the Movie Camera to the AC Adaptor and leave it in this condition for several hours. It is not necessary to turn the Movie Camera on.**

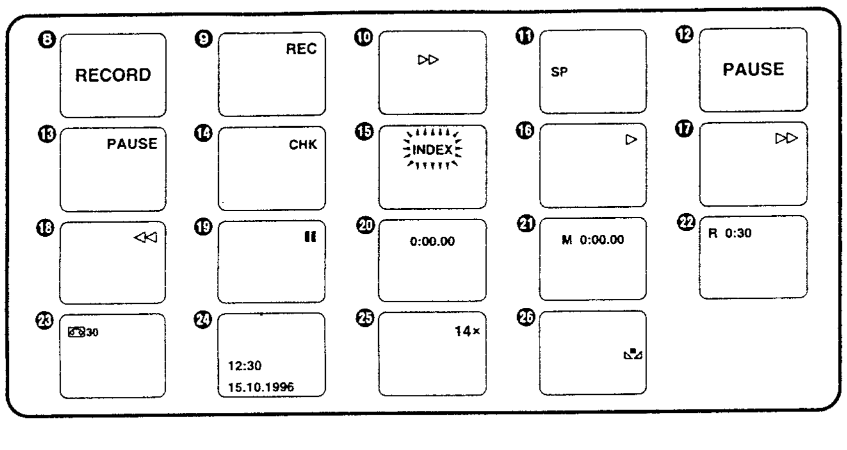
- •After the lithium battery has been charged for approx. 8 hours, it can maintain the operation of the clock for approx. 3 months.
- •After charging the lithium battery, the "⊜" Indication still flashes to remind you to set the date and time as explained on page 56.



Colour Temperature and White Balance

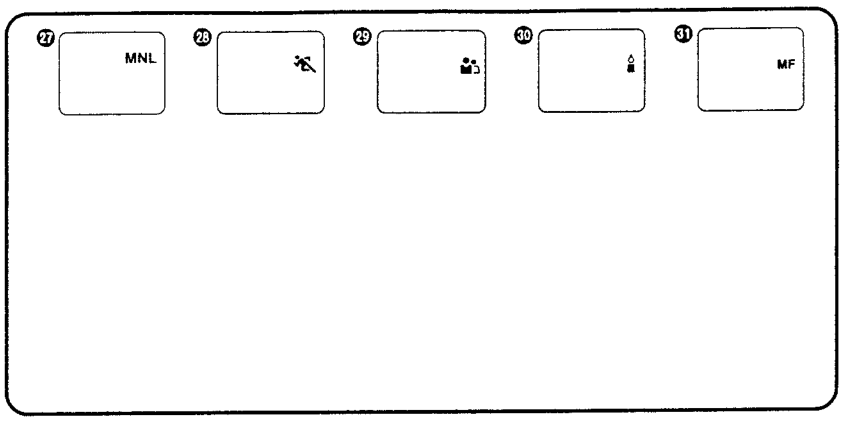
The colour temperature of the light source is measured in Kelvin (K). The higher the Kelvin value is, the more bluish is the light; the lower the value, the more reddish is the light. This is not directly related to the brightness. The illustration shows the relationship between natural light, artificial light and colour temperature.

❶ Control range of the Auto White Balance Function
❷ Blue sky
❸ Cloudy sky (rain)
❹ TV screen
❺ Sunlight
❻ White fluorescent lamp
❼ 2 hours after sunrise or before sunset
❽ 1 hour after sunrise or before sunset
❾ Halogen light bulb
❿ 30 minutes after sunrise or before sunset
⓫ Incandescent light bulb
⓬ Sunrise or sunset
⓭ Candlelight



■ Shooting and Playback Indications

❽ **Shooting Mode (large indication)**
❾ **Shooting Mode (small indication)**
❿ **Tape Run Mode**
⓫ **Recording Speed Mode**
⓬ **Shooting Pause Mode (large indication)**
⓭ **Shooting Pause Mode (small indication)**
⓮ **Recording Review Mode**
⓯ **Recording of Index Signal**
⓰ **Playback/Camera Search Mode**
⓱ **Fast Forward/Cue Mode**
⓲ **Rewind/Review/Camera Search Mode**
⓳ **Still Playback Mode**
⑳ **Tape Counter**
㉑ **Tape Counter with activated Memory Stop Function**
㉒ **Remaining Tape Time**
㉓ **Tape Length**
㉔ **Date and Time**
㉕ **Zoom Magnification**
㉖ **Manual White Balance Mode**



㉗ **Manual Shooting Mode**
㉘ **Sports Mode**
㉙ **Portrait Mode**
㉚ **Low Light Mode**
㉛ **Manual Focus Mode**

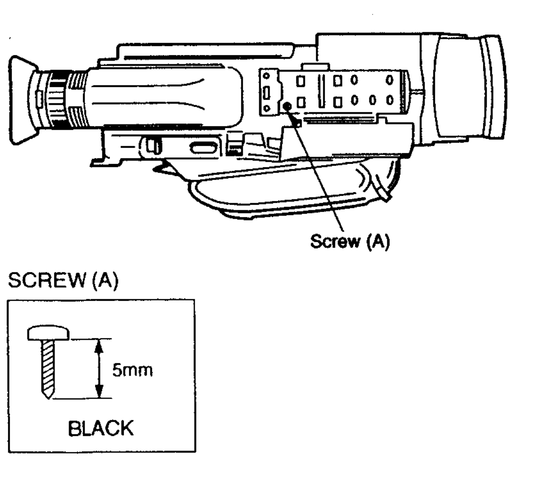
SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

Flow-Chart for Disassembly Procedure

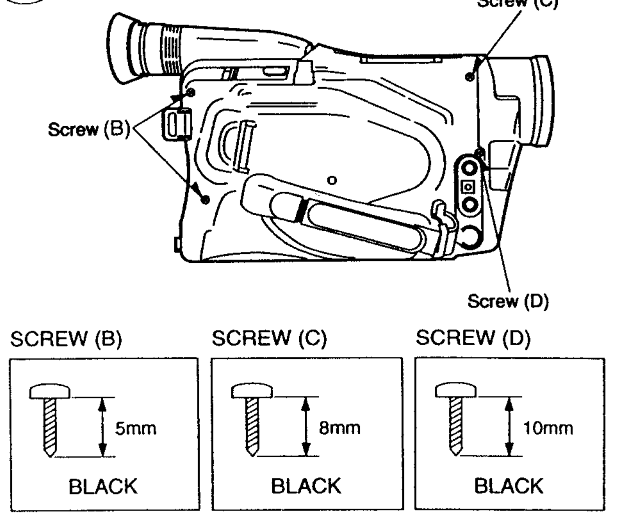
NBR	ITEM/PART	Fig.	Removal(SCREW)
【1】	Side Case (L).	① ② ③ ④.	1-SCREW (A) 4-SCREW (B/C/D) 5-SCREW (E) Slightly open the side case (L) Disconnect(Connector A).
【2】	Cassette Cover	⑤	2-SCREW (F)
【3】	Side Case (R).	⑥ ⑦ ⑧ ⑨	1-SCREW (G) Disconnect(Connector B) 1-SCREW (H) Unlock---3 Locking Tabs Remove the Side Case (R)
【4】	EVF-Unit	⑩	Unlock---2 Locking Tabs Disconnect(Connector C)
【5】	Front Case	⑪	Unlock---2 Locking Tabs Disconnect(Connector D)
【6】	Main C.B.A	⑫ ⑬	2-SCREW (I/K) Unsolder the Shield Case Disconnect(Connector E/F/G/H/I Connector J/K) Disconnect(Connector L)
【7】	Lens-Unit	⑭	2-SCREW (J)
【8】	Front C.B.A & Mic Unit	⑮ ⑯ ⑰	Remove the Focus Dial 1-SCREW(K) Disconnect(Connector M) Unlock ---Locking Tabs Remove the AV-Jack C.B.A 4-SCREW(L) Remove the Front C.B.A Remove the Mic Unit
【9】	E.V.F C.B.A	⑱ ⑲	4-SCREW(M) Disconnect (Connector N/O/P/Q)

①



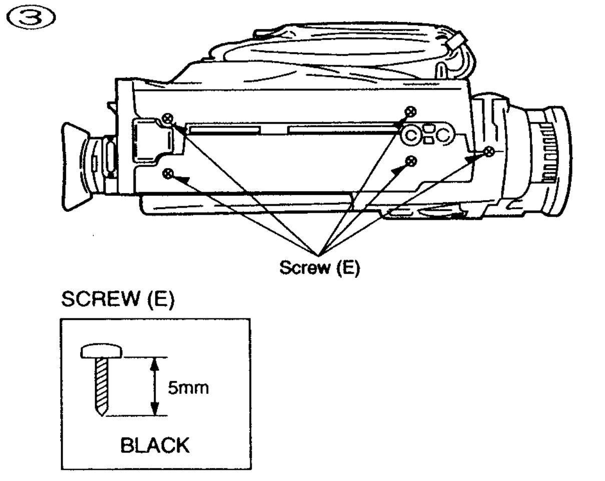
Screw (A)
SCREW (A)
5mm
BLACK

②



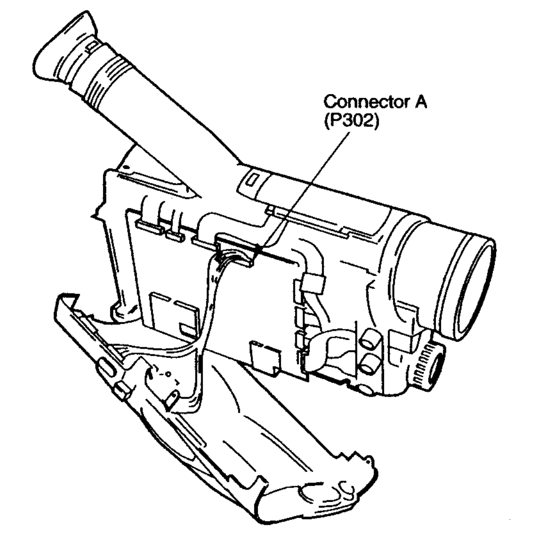
Screw (C)
Screw (B)
Screw (D)
SCREW (B)
SCREW (C)
SCREW (D)
5mm
BLACK
8mm
BLACK
10mm
BLACK

③



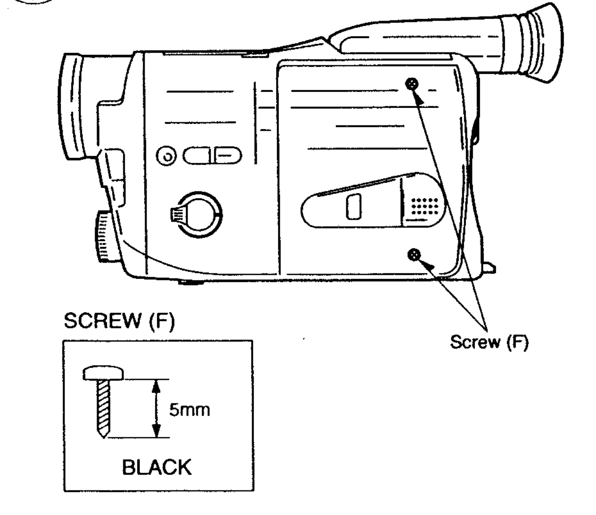
Screw (E)
SCREW (E)
5mm
BLACK

④



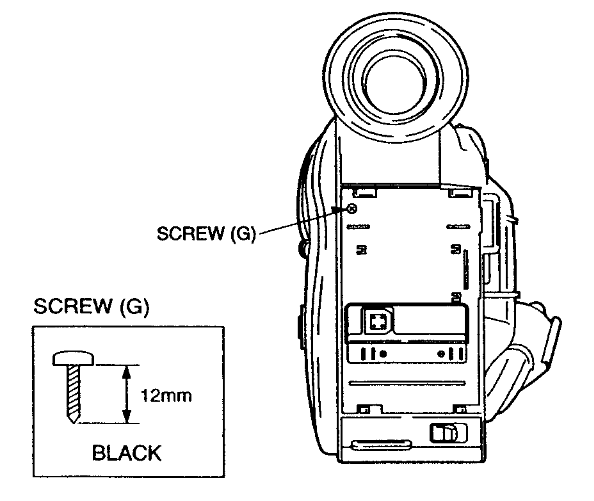
Connector A
(P302)

⑤



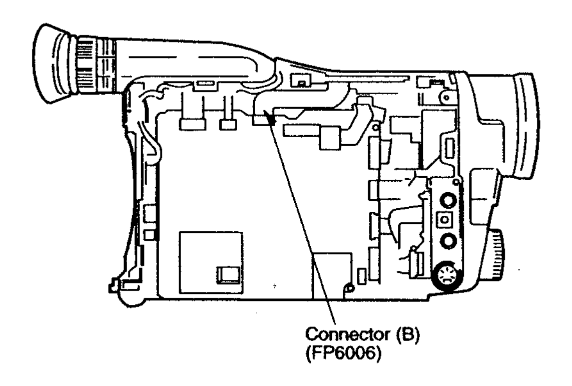
SCREW (F)
Screw (F)
5mm
BLACK

⑥



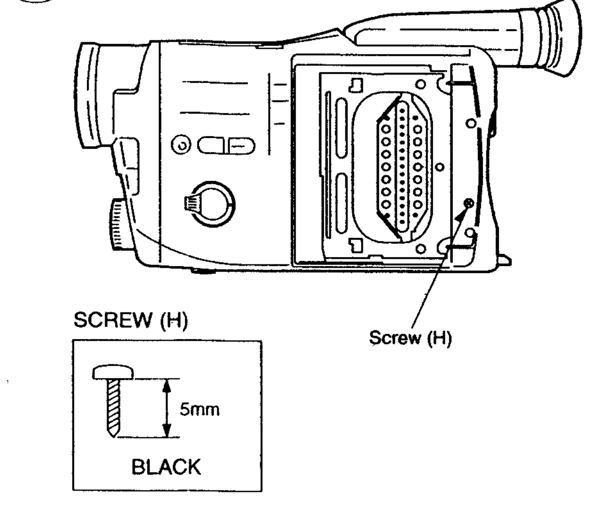
SCREW (G)
SCREW (G)
12mm
BLACK

⑦



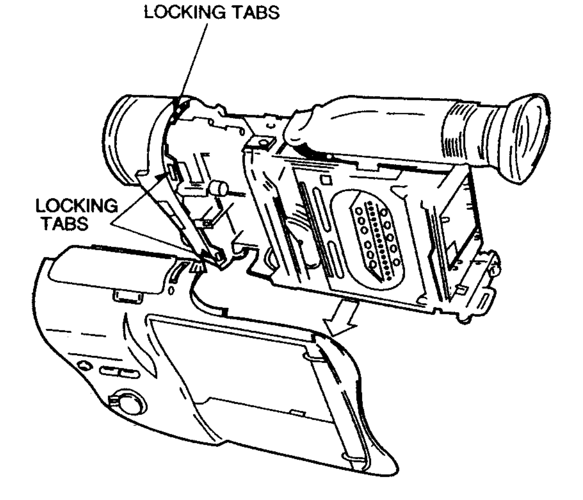
Connector (B)
(FP6006)

⑧



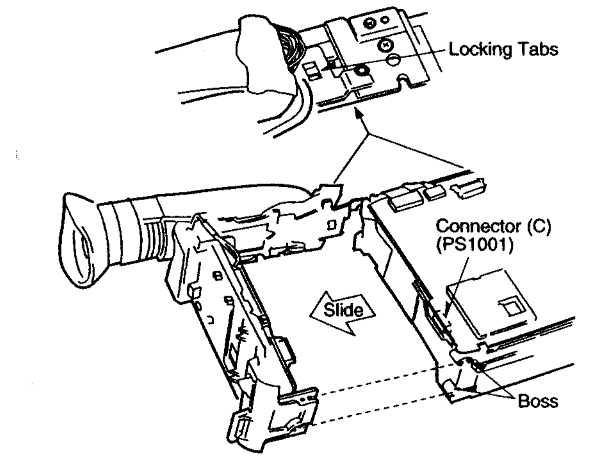
SCREW (H)
Screw (H)
5mm
BLACK

⑨



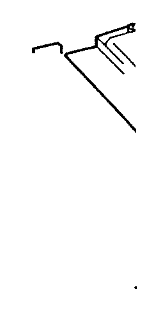
LOCKING TABS
LOCKING
TABS

⑩



Locking Tabs
Connector (C)
(PS1001)
Slide
Boss

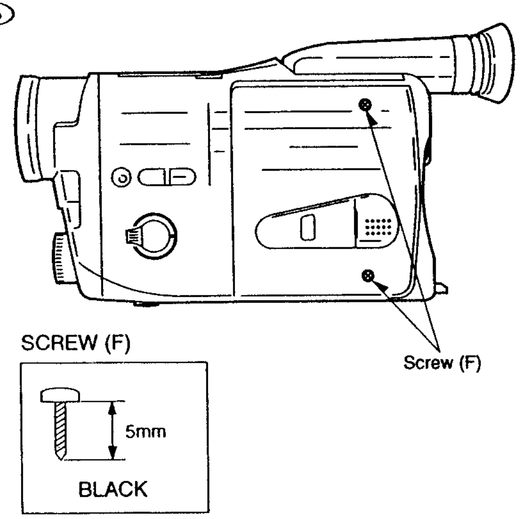
⑪



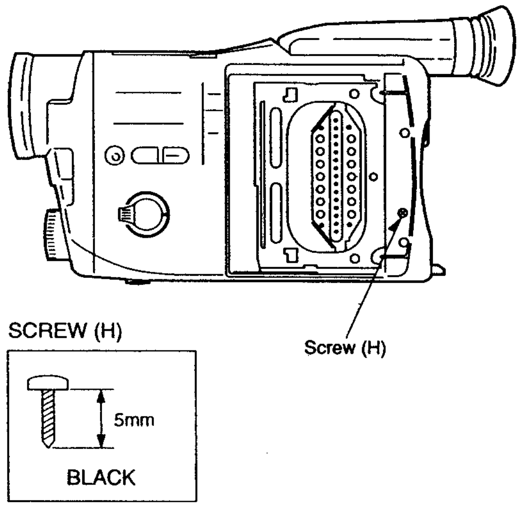
⑫

Conn
Screw (J)
Shield C
Co
(F
SCREW (I)
3mm
GOLD

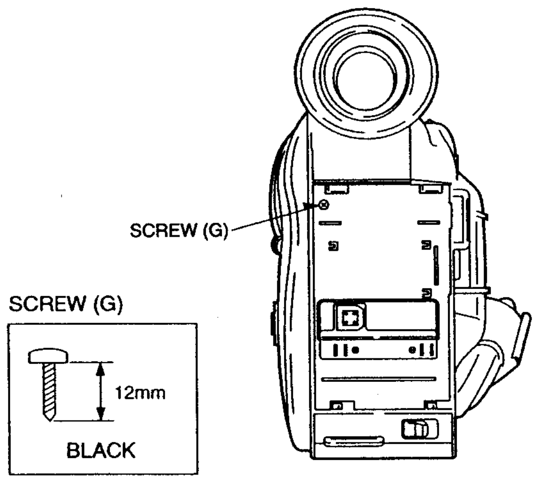
⑤


SCREW (F)
Screw (F)
5mm
BLACK

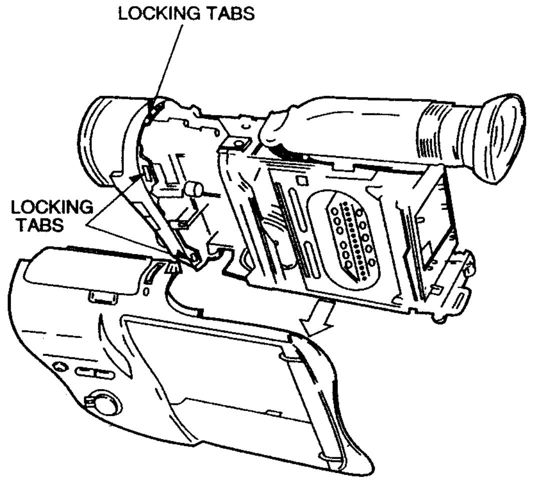
⑧


SCREW (H)
Screw (H)
5mm
BLACK

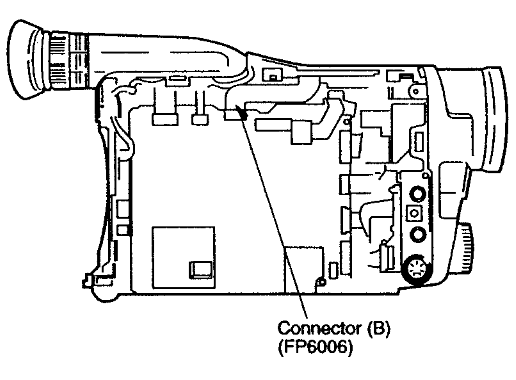
⑥


SCREW (G)
SCREW (G)
12mm
BLACK

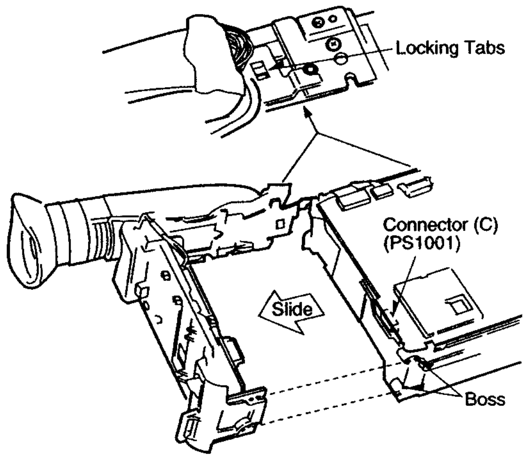
⑨


LOCKING TABS
LOCKING TABS

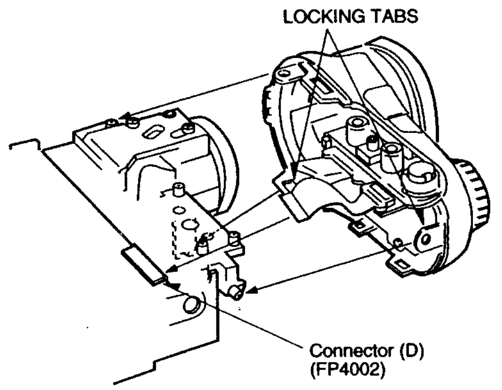
⑦


Connector (B)
(FP6006)

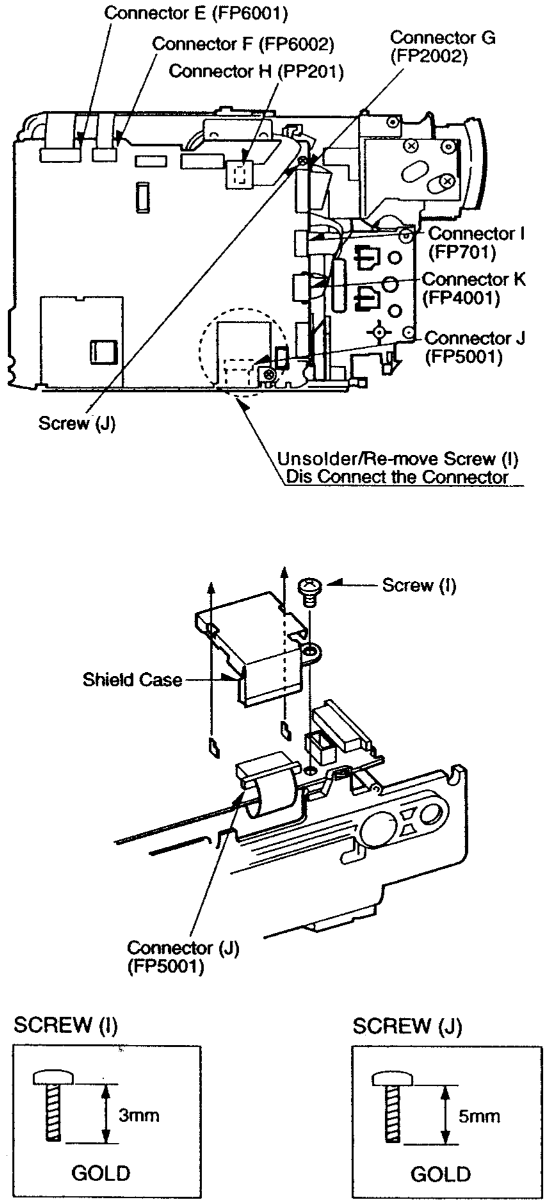
⑩


Locking Tabs
Connector (C)
(PS1001)
Slide
Boss

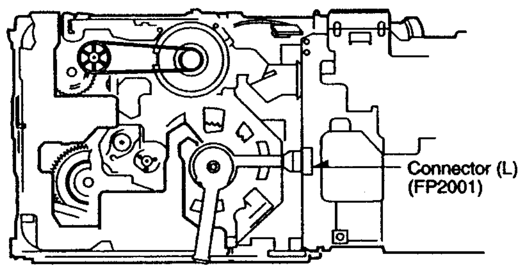
⑪


LOCKING TABS
Connector (D)
(FP4002)

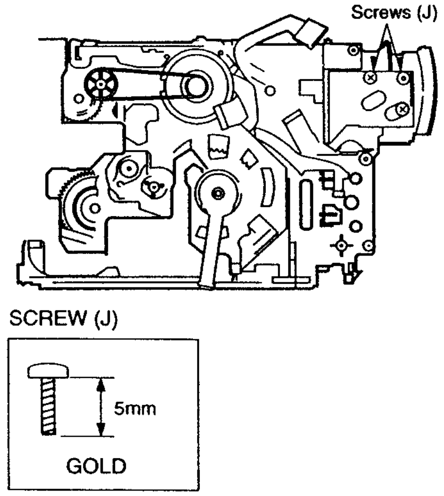
⑫


Connector E (FP6001)
Connector F (FP6002)
Connector H (PP201)
Connector G
(FP2002)
Connector I
(FP701)
Connector K
(FP4001)
Connector J
(FP5001)
Screw (J)
Unsolder/Re-move Screw (I)
Dis Connect the Connector
Screw (I)
Shield Case
Connector (J)
(FP5001)
SCREW (I)
3mm
GOLD
SCREW (J)
5mm
GOLD

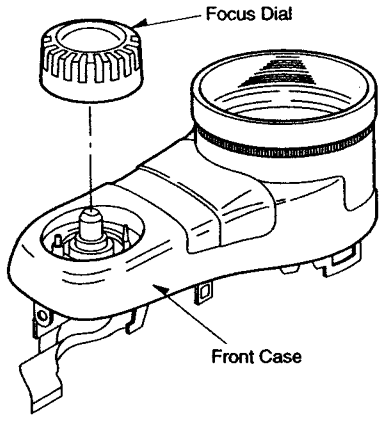
⑬


Connector (L)
(FP2001)

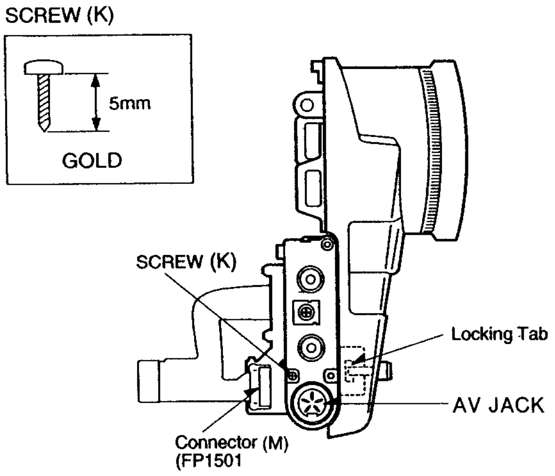
⑭


Screws (J)
SCREW (J)
5mm
GOLD

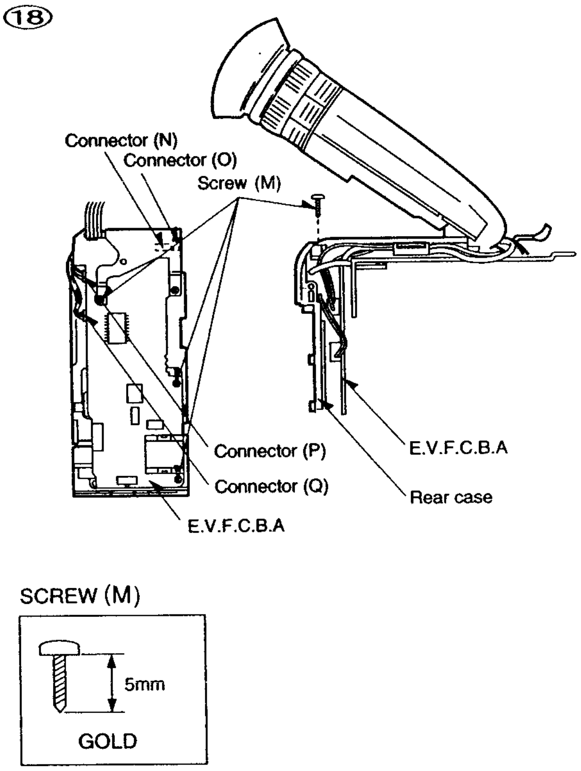
⑮


Focus Dial
Front Case

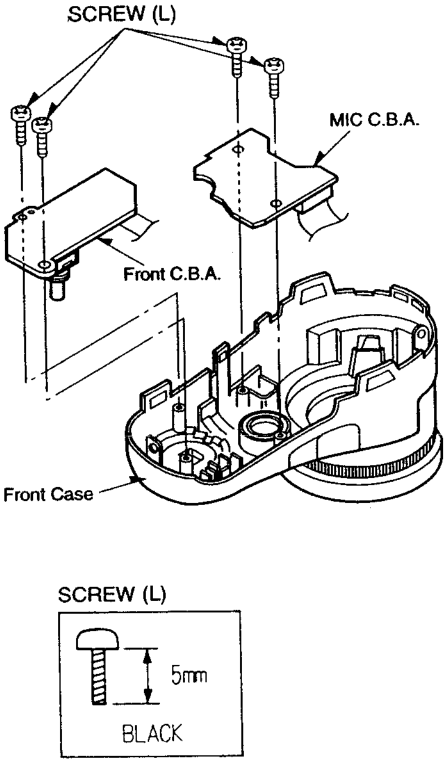
⑯


SCREW (K)
5mm
GOLD
SCREW (K)
Locking Tab
AV JACK
Connector (M)
(FP1501

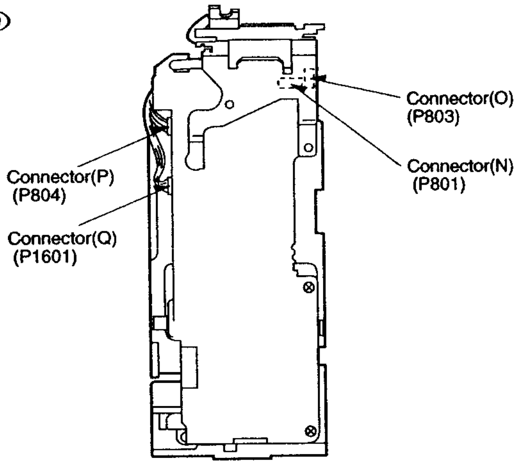
⑱


Connector (N)
Connector (O)
Screw (M)
Connector (P)
Connector (Q)
E.V.F.C.B.A
E.V.F.C.B.A
Rear case
SCREW (M)
5mm
GOLD

⑰

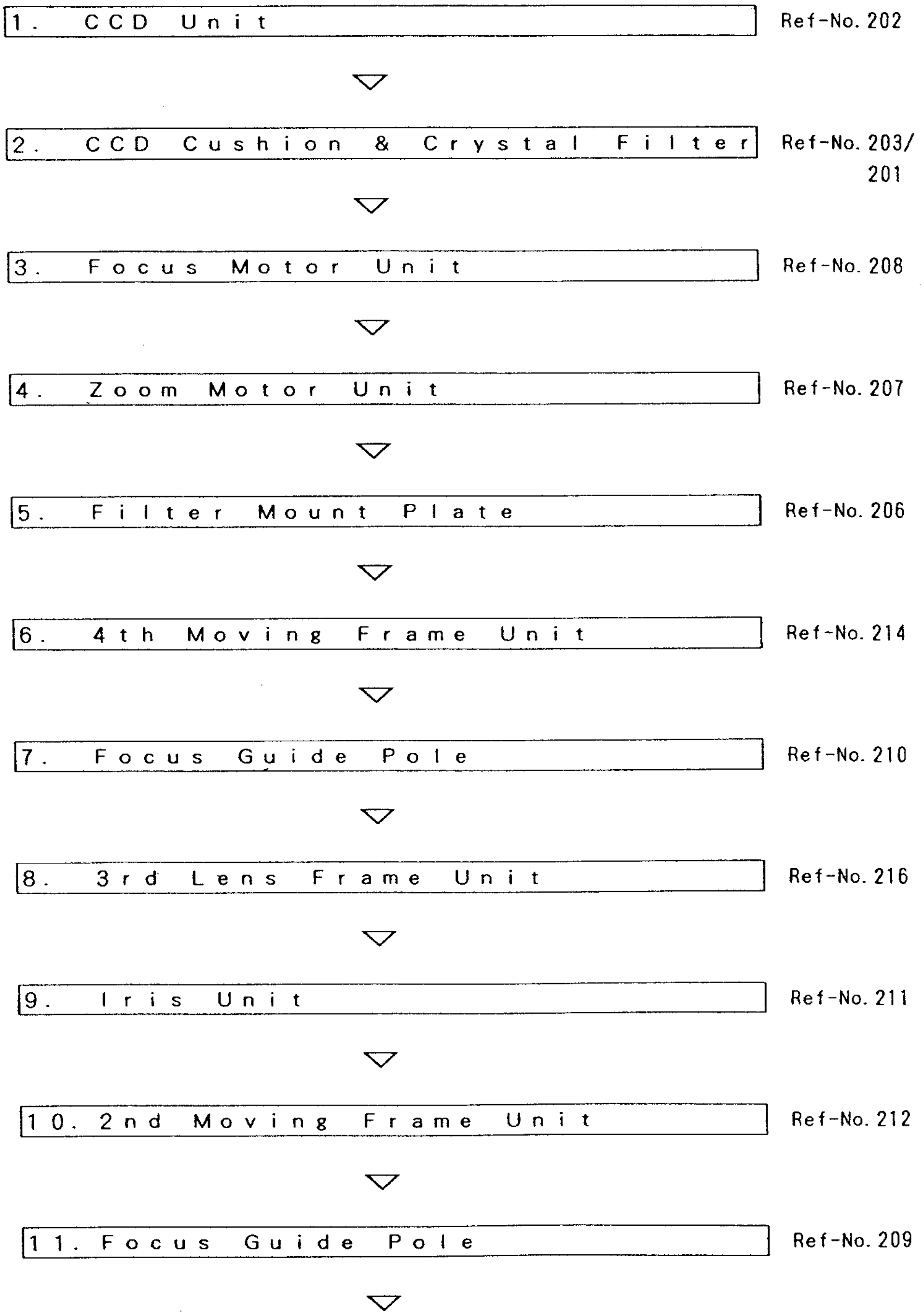

SCREW (L)
MIC C.B.A.
Front C.B.A.
Front Case
SCREW (L)
5mm
BLACK

⑲


Connector(O)
(P803)
Connector(N)
(P801)
Connector(P)
(P804)
Connector(Q)
(P1601)

2-2. DISASSEMBLY PROCEDURES OF LENS UNIT

The following flowchart describes order or steps for removing the Lens Units and certain printed circuit boards in order to make access to the item needing service.
To reassemble the unit follow the steps in reverse order.


1. CCD Unit
Ref-No. 202
2. CCD Cushion & Crystal Filter
Ref-No. 203/201
3. Focus Motor Unit
Ref-No. 208
4. Zoom Motor Unit
Ref-No. 207
5. Filter Mount Plate
Ref-No. 206
6. 4th Moving Frame Unit
Ref-No. 214
7. Focus Guide Pole
Ref-No. 210
8. 3rd Lens Frame Unit
Ref-No. 216
9. Iris Unit
Ref-No. 211
10. 2nd Moving Frame Unit
Ref-No. 212
11. Focus Guide Pole
Ref-No. 209

Note: Each Ref-numbers are equivalant to number on Fig L2 and Parts-List.

Fig. L1

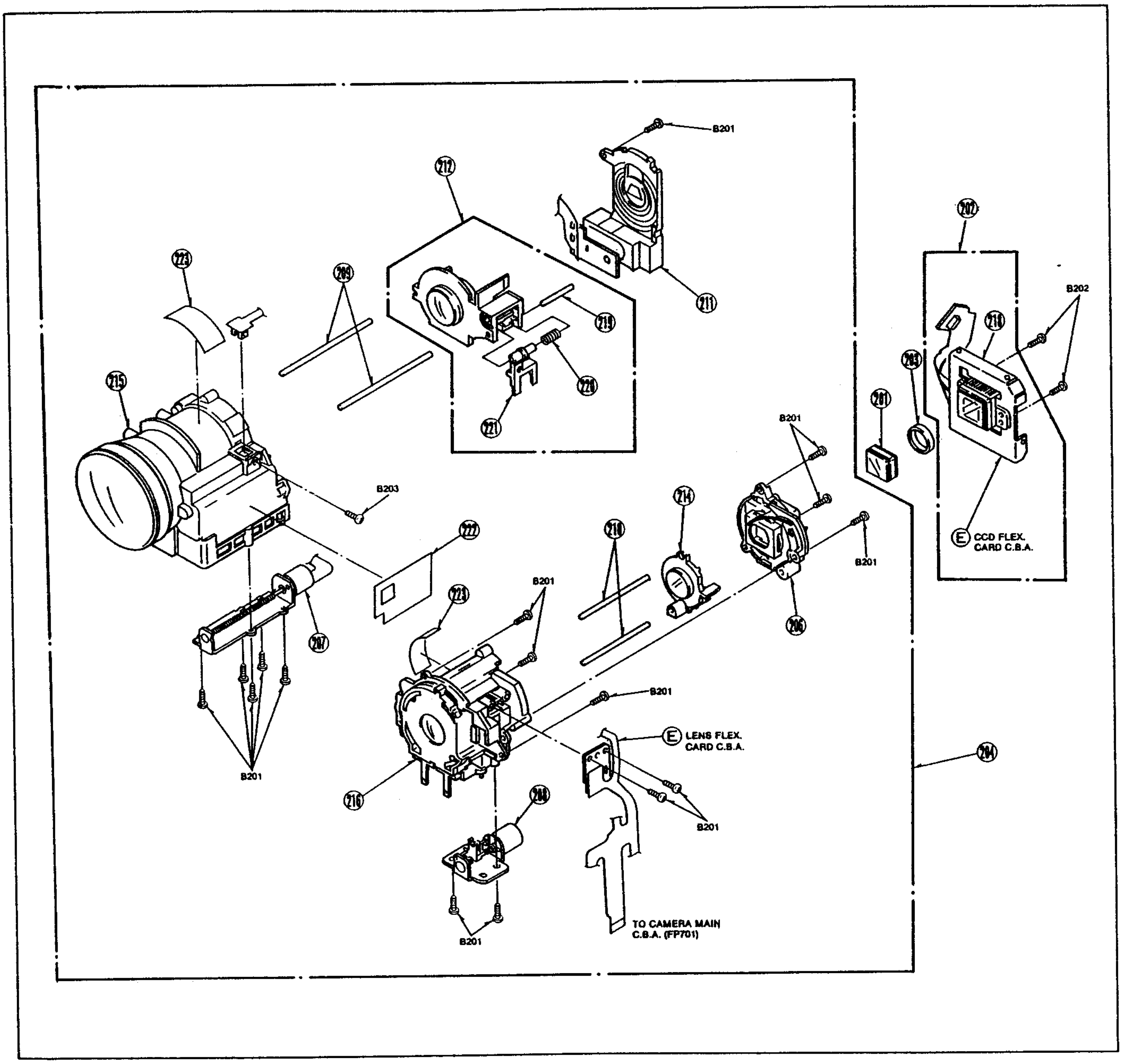

B201
B202
B201
B203
B201
E CCD FLEX. CARD C.B.A.
B201
B201
E LENS FLEX. CARD C.B.A.
B201
B201
TO CAMERA MAIN C.B.A. (FP701)
B201

Fig. L2

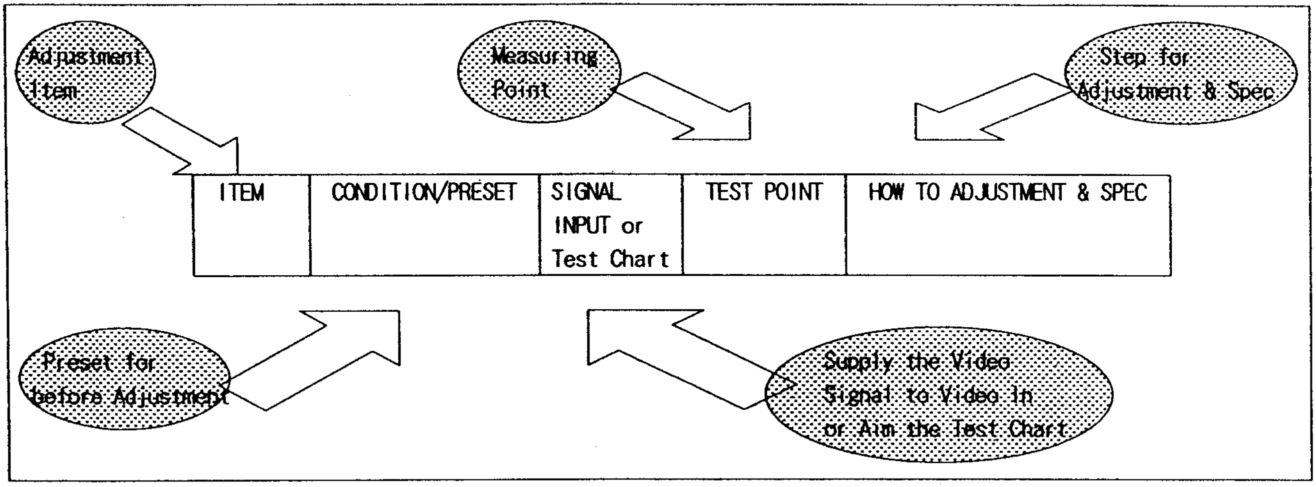
2-6. ELECTRICAL ADJUSTMENT PROCEDURES FOR E.V.F. SECTION

The following Equipments are required for Adjutment of Electric Viewfinder.
1:Chart ⇨ Ball-Chart/Registration-Chart/Gray Scale-Chart
2:Tools ⇨ Plastic Tip Driverare /VFK0668(24Pin)

The following adjustment are Electric Viewfinder.

PREPARATION:(A).Remove the Casing panels.(Side Case,Rear Case)
(B).Connect the Viewfinder to unit with Extension Cable VFK0668(24Pin). ⇨ Please Refer to Fig.E1
(C).The camera unit must be completely aligned befor viewfinder adjustment.

How to Read the Adjustment Procedure


Adjustment Item
Measuring Point
Step for Adjustment & Spec
ITEM
CONDITION/PRESET
SIGNAL INPUT or Test Chart
TEST POINT
HOW TO ADJUSTMENT & SPEC
Preset for before Adjustment
Supply the Video Signal to Video In or Aim the Test Chart

ADJUSTMENT FOR E.V.F SECTION

ITEM	CONDITION/PRESET	SIGNAL INPUT or Test Chart	TEST POINT	HOW TO ADJUSTMENT & SPEC
1.CENTREING	Aim the camera at Registration chart.	Registration Chart	E.V.F on Screen	Adjust the deflection-yoke centreing magnets turning so that picture on E.V.F is centred. Please Refer to Fig.E2
2.FOCUS	Aim the camera at Ball chart.	Ball Chart	E.V.F on Screen	Adjust the VR803 for best resolution in Viewfinder. Note: After performed this adjustment, confirm "A" part of VR803. "A" part is outside of 100 degree. Please Refer to Fig.E3
3.VERTICAL SIZE	Aim the camera at Gray-Scale chart	Gray Scale Chart	E.V.F & TV on Screen	Adjust the VR801 for best vertical size. (Picture does not roll as shown in Fig.E4.)
4.BRIGHTNESS	Aim the camera at Gray-Scale chart	Gray Scale Chart	E.V.F & TV on Screen	Adjust the VR804 so that brightness in viewfinder is same as monitor TV.

Preparation

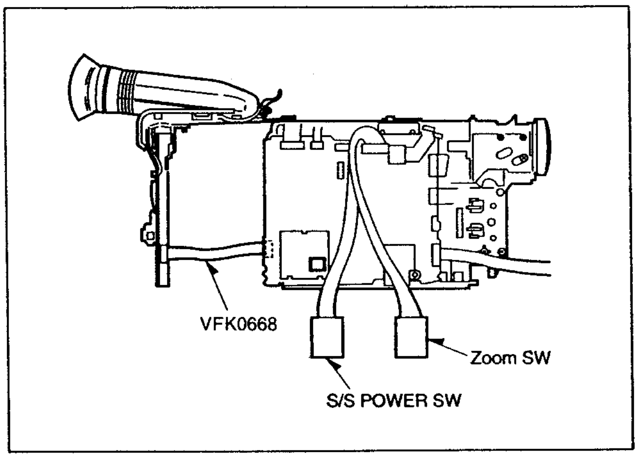

VFK0668
Zoom SW
S/S POWER SW

Fig. E1

CENTREING ADJUSTMENT

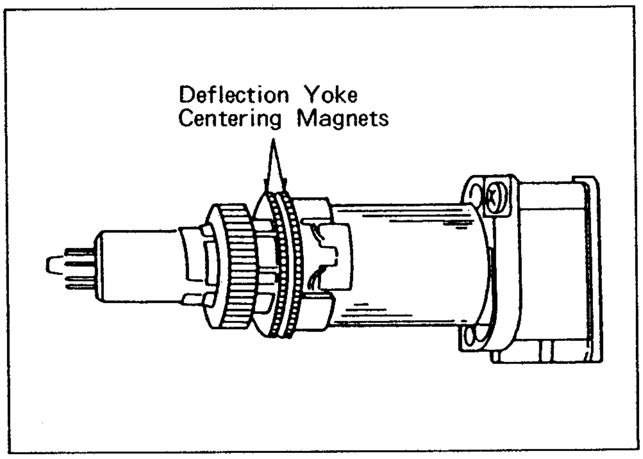

Deflection Yoke
Centering Magnets

Fig. E2

FOCUS ADJUSTMENT

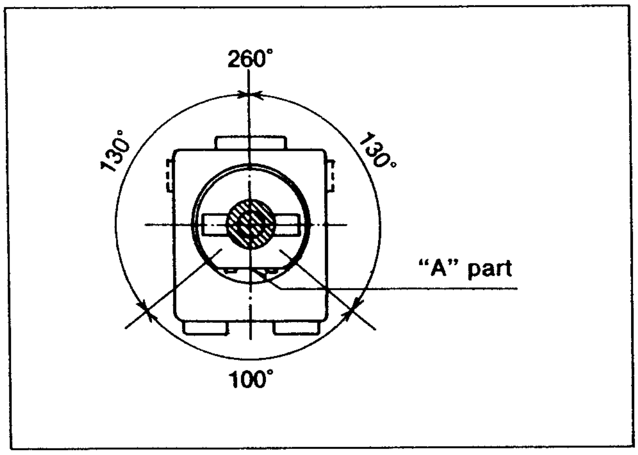

260°
130°
130°
"A" part
100°

Fig. E3

VERTICAL ADJUSTMENT

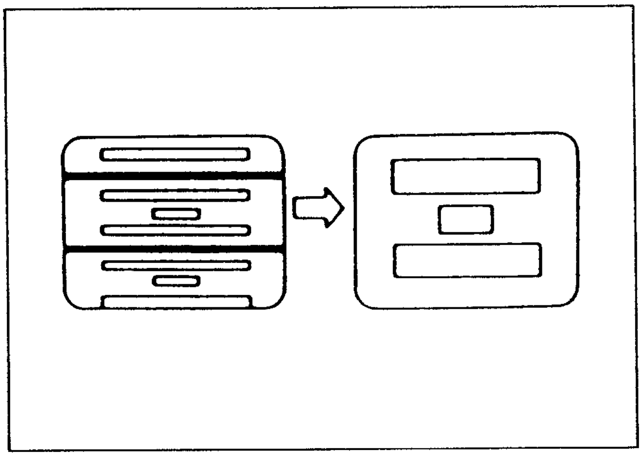
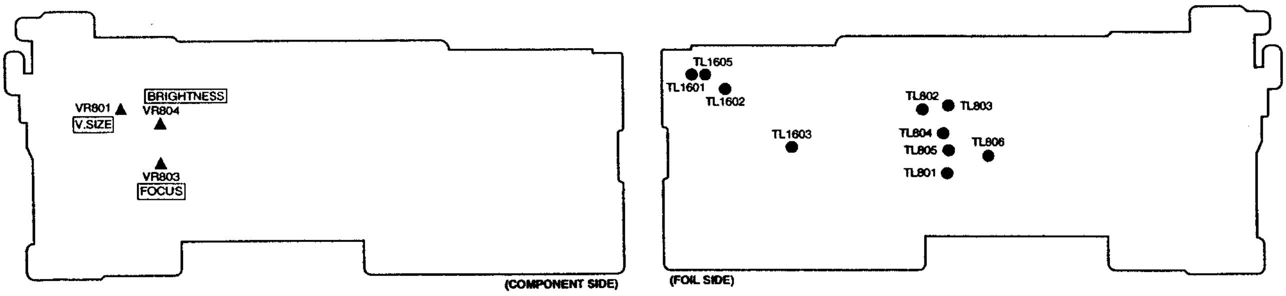


Fig. E4

LOCATION OF TEST POINTS & CONTROLS

EVF C.B.A.


VR801
V.SIZE
BRIGHTNESS
VR804
VR803
FOCUS
TL1605
TL1601
TL1602
TL1603
TL802
TL803
TL804
TL805
TL806
TL801

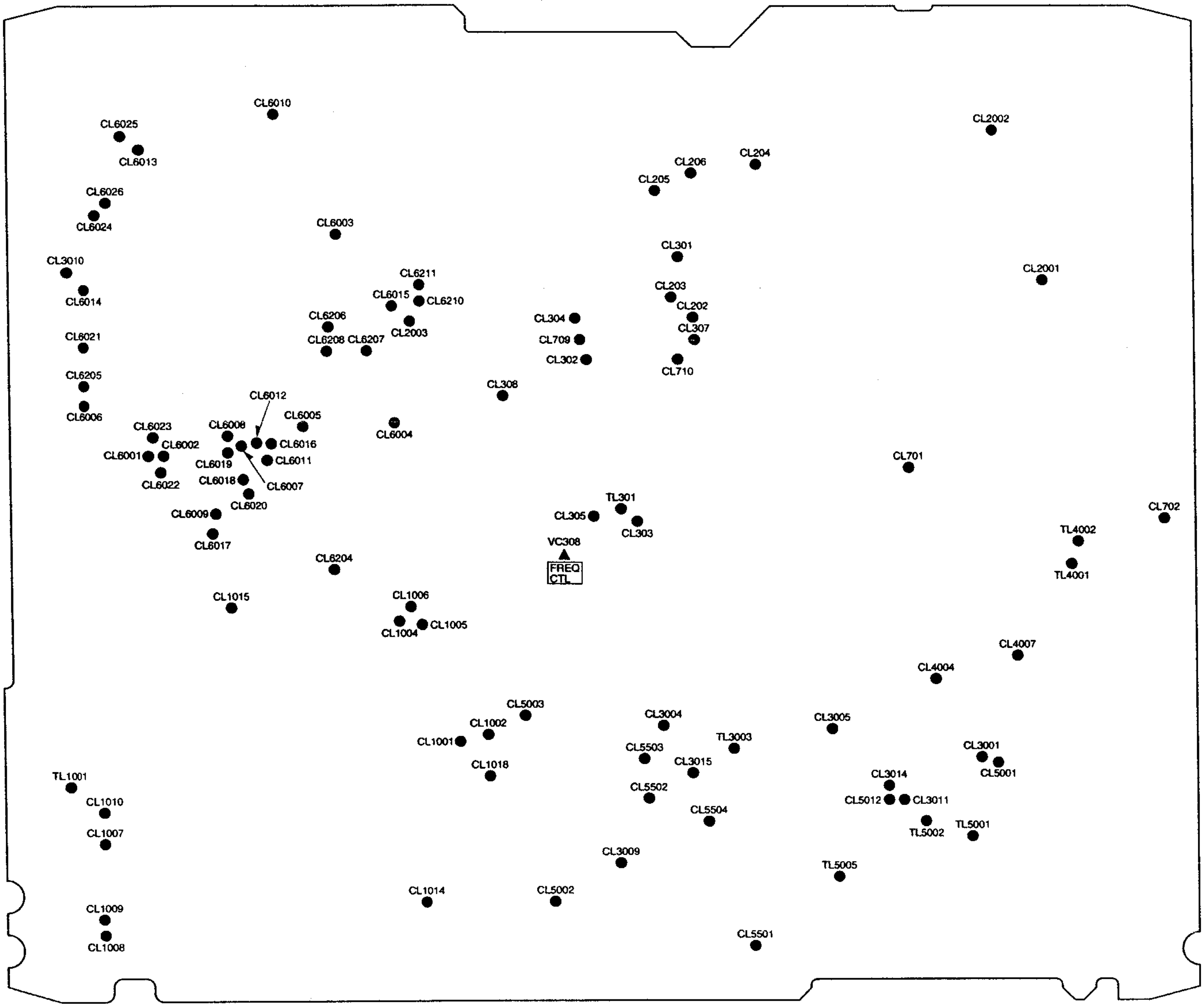
(COMPONENT SIDE)

(FOIL SIDE)

Note: Adjutment for CAMERA/VTR Section requied EVR fixture.
So, adjustment procedure described on Service manual VMD9512M137

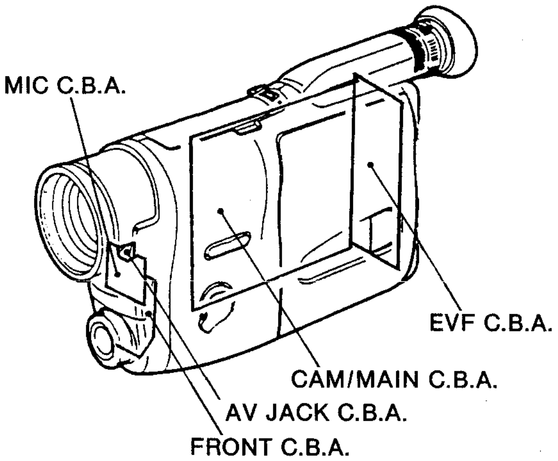
LOCATION OF TEST POINTS & CONTROLS

CAM/MAIN C.B.A.


CL6010
CL6025
CL6013
CL6026
CL6024
CL3010
CL6014
CL6021
CL6205
CL6006
CL6003
CL6211
CL6015
CL6210
CL6206
CL2003
CL6208
CL6207
CL6012
CL6005
CL6023
CL6008
CL6002
CL6016
CL6001
CL6019
CL6011
CL6022
CL6018
CL6007
CL6020
CL6009
CL6017
CL6004
CL6204
CL1015
CL1006
CL1004
CL1005
CL2002
CL206
CL204
CL205
CL301
CL2001
CL203
CL202
CL304
CL307
CL709
CL302
CL710
CL308
CL701
TL301
CL305
CL303
CL702
VC308
FREQ CTL
TL4002
TL4001
CL4007
CL4004
CL5003
CL1002
CL3004
CL3005
CL1001
TL3003
CL5503
CL3015
CL3001
CL1018
CL5001
TL1001
CL3014
CL5502
CL5012
CL3011
CL1010
CL5504
CL1007
TL5002
TL5001
CL3009
TL5005
CL1014
CL5002
CL1009
CL1008
CL5501

(FOIL SIDE)

2-7. CIRCUIT BOARD LAYOUT


MIC C.B.A.
EVF C.B.A.
CAM/MAIN C.B.A.
AV JACK C.B.A.
FRONT C.B.A.

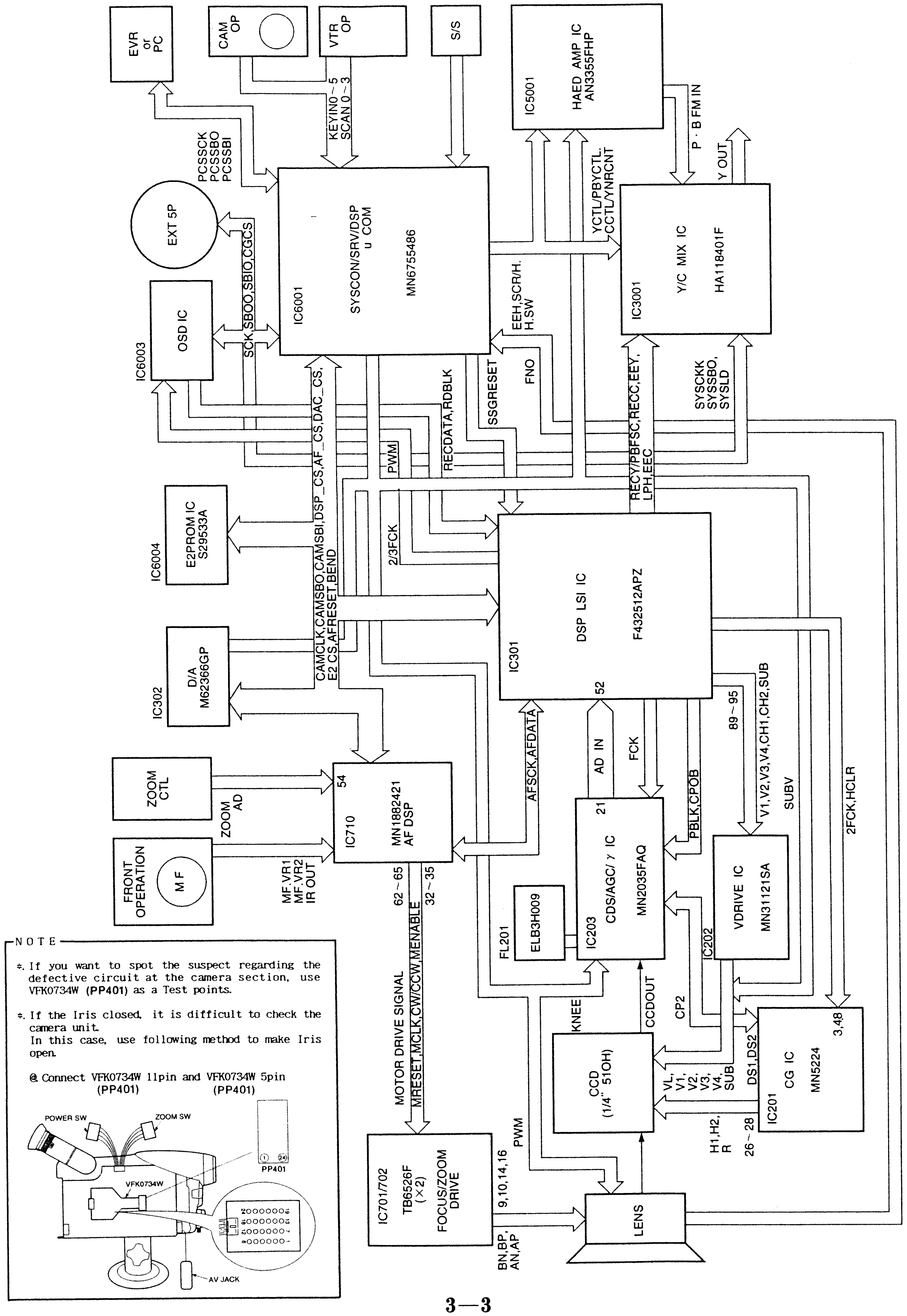
SECTION 3
BLOCK DIAGRAM & SCHEMATIC DIAGRAM

3-1. ABBREVIATIONS

INITIAL/LOGO		ABBREVIATIONS
	3R3V	3. 3V
A	A. TR	AUTO TRACKING
	ABSF	FOCUS ENCODER INPUT
	ADCLK	A/D CLOCK
	ADCNT	A/D CONTROL
	ADREC	AUDIO DELAIED REC
	ADUB	AUDDIO DUBBING
	AE	AUTO EXPOSE
	AECNT	AUTO EXPOSE CONTROL
	AEIRQ	AUTO EXPOSE INTERRUPT REQUEST
	AFADE	AUDIO FADE
	AGCCNT	AGC CONTROL
	AGS	ANTI GROUND SHOOTING
	ALCCNT	ALC CONTROL
	ALCMAIN	ALC DRIVE
	AMUT	AUDIO MUTE
	AORP	AUDIO OVER LAP PULSE
	APS	AUTO POWER SAVE
	ARTV	ARTIFICAL VERTICAL SYNC
	AWTB	AUTO WHITE BALANCE B-Y
	AWTR	AUTO WHITE BALANCE R-Y
B	B-Y KB	B-Y CARRIER BALANCE
	BACK	BACK-UP
	BEND	BURST FLUG PULSE
	BFA	BURST FLUG FOR ENCODER
	BL	BACK LIGHT
	BLDIN	BACK LIGHT DRIVE INPUT
	BLDOUT	BACK LIGHT DRIVE OUTPUT
	BLK	BLANKING PULSE
	BM	BALANCED MODULATOR
	BUF	BUFFER
C	CAPVM	CAPSTAN MOTOR CURRENT
	CCW	COUTER CLOCKWISE
	CDS	CORRELATE DOUBLE SAMPLING SIGNAL
	CFM 1~4	CHROMINANCE FIELD MEMORY
	CGC	CHROMINANCE GAIN
	CH1	Channel 1(Odd Field)
	CHR MIX	CHARACTER MIX
	CK or CLK	CLOCK
	CLK2	CLOCK 2(824XFH: 12.875MHz)
	CFEM	CHORMINACE MEMORY SIGNAL
	CMO	CHROMA MEMORY OUTPUT
	CO0~7	CHORMO OUTPUT(DIGITAL)
	CP	CLAMP PULSE
	CPOB	OB CLAMP PULSE
	CS	CHIP SELECT
	CSEL1~2	CLOCK PHASE SELECET
	CW	CLOCWISE
	CYLVM	CYLINDER MOTOR CURRENT
D	D MODE0~2	DIGITAL MODE SWITCH SIGNAL
	DAC	DIGITA/ANALOG CONVERTER
	D0~D8(D9)	VIDEO OUT(DIGITAL 8 or 9 BIT)
	DCLR	DIGITAL CLEAR
	DICLK	DIGITAL CLOCK
	DISCS	DIS CHIP SELECT
	DL	DELAY LINE
	DRK	DARK
	DS 1~2	DOUBLE SAMPLING PULSE
	DSP	DIGITAL SIGNAL PROCESS
	DZ	DIGITAL ZOOM
	DZ/OZ	DIGITAL ZOOM/OPTICAL ZOOM
E	ECM	ELECTRIC CONDENCER MIC
	EEPROM	ELECTRIC ERASABLE PROGRAMABLE-READ
	(E^2 PROM)	ONLY MEMORY
	ENV	ENVELOPE DITECT
	EQ	EQUALIZER
	EZOOM	ELECTRIC ZOOM
F	FAR	FAR(FOCUS)
	FCK	CLOCK
	FENC	FOCUS ENCODER
	FH2B	FH/2(15.625KHz÷2 =7.8125KHz)
	FM CS	CHIP SELECT FOR FM-AUDIO
	FM MUTE	FM AUDIO MUTE
	FM0~7(8)	FIELD MEMORY INPUT 8BIT(or 9BIT)
	FMD REC	FM AUDIO DELAYED REC
	FMOEM	FIELD MEMORY ENABLE
	FNO	F VALUE
G	GCNT	GAIN CONTROL
H	H1~H2	H. CCD DRIVE PULSE
	H. A SW	HEAD AMP SW
	HBRST	HIGH BRIGHT SET
	HCLR	HIGH CLEAR
	HEX	HEXADECIMAL
	HLT	HIGHT BRIGHT SIGNAL
I	INTER	INTERVAL RECORDING
	IOU	R-Y ANALOGUE SIGNAL OUTPUT
	IOV	B-Y ANALOGUE SIGNAL OUTPUT
	IRQ	INTERRUPT REQUEST
	IRIS/SH	IRIS/SHUTTET CONTROL
K	KANDO	DIGITAL GAIN UP
L	LD	LOAD PULSE
	LEDCNT	LED CONTROL
	LI-BATT	LITHIUM BATTERY
	LSB	LEAST SIGNFICANT BIT
	LVL	VL FILTE SWITCHING
M	MD	MODILATOR
	MFF	MANUAL FOCUS FAR
	MFN	MANUAL FOCUS NEAR
	MSB	MOST SIGNFICANT BIT
	MIX N. R. D	NON REC DATA MIX

INITIAL/LOGO		ABBREVIATIONS
N	N/F	NEAR/FAR(FOCUS)
	N/P	NTSC/PAL
	NC	NO CONNECTION
	NC1~3	NPN TRANSISTOR C-SIDE
	NDE	NON LINER DE-EMPHAIS
	NEAR	NEAR(FOCUS)
	NLE	NON LINER EMPHASIS
	NRD	NON REC DATA
	NRDBLK	NON REC DATA BLNKING
	NRE	READ ENABLE INPUT(LOW ACTIVE)
	NWE	WRITE ENABLE(LOW ACTIVE)
O	OBCNT	OPTICAL BLACK CONTROL
	OE	OUTPUT ENABLE
	OP	OPERATIONAL AMP OUTPUT
	OSD	ON SCREEN DISPLAY
P	PB1~3	PNP TRANSITOR B-SIDE
	PBLK	PRE-BLANKING
	PCBM(B-Y)	B-Y CARRIER BALANCE
	PCBM(R-Y)	R-Y CARRIER BALANCE
	PEDECNT	PEDESTAL CONTROL
	PORIN or POR	POWER ON RESET
	PREAP	PRE-AMP
	PREBLK	PRE-BLANKING
	PT	PROTECT FOR V VOLTAGE
	PWM	PULSE WIDTH MODULATOR
R	R/B	READT/BUSY
	R-Y KB	R-Y CARRIER BALANCE
	RAD	READ ADDRESS DATA
	RAE	READ ADDRESS ENABLE
	RE	READ ENABLE
	RE	ROTARY ERASE HEAD
	RERASE	ROTARY ERASE HEAD
	RST	RESET
	RSTPWD	RESET POWER DOWN INPUT
	RSTR	RESET READ
	RSTW	RESET WRITE
S	S/S	START/STOP
	SBO	SERIAL OUTPUT
	SBD	SERIAL DATA
	SCLK	SERIAL CLOCK
	SCR	SERCH
	SDET	S-VHS DETECT
	SH/IRIS	SHUTTER/IRIS CONTROL
	STAB	S-VHS TAB SWITCH
	STRB	STRBO MODE
	SUB CNT	SUB CONTROL
T	TBC	TIME BASE CORRECTOR
	TBC.C OUT	TIME BASE CORRECTOR CHROMA OUT
	TBC.V OUT	TIME BASE CORRECTOR VIDEO OUT
	TL	TORQUE LIMIT
	TRFIX	TRACKING FIX
	TRIWAVE	TRIANGLE WAVE
	TRP	TRAP
U	U/V SECT	R-Y/B-Y SELECT SIGNAL
	UVSEL	R-Y/B-Y SELECT SIGNAL
V	V1~V4	V.CCD DRIVE PULSE
	VB	VH FILTER SWITCHING
	VCO	VOLTAGE CONTROL OSCILLTOR
	VCTRL	VOLTAGE CHARGE CONTROL
	VD	VERTICAL DRIVE PULSE
	VDREC	VIDEO DELAYED REC
	VIN	VIDEO IN(ANALOGUE)
	VITC	VETICAL INTERVAL TIME CODE
	VMD1~VMD3	VELOCITY MODE DATA(SHUTTER)
	VMVH	VH FILTER SWITCHING
	VORP	VIDEO OVERLAP
	VRB	VOLTAGE REFERENCE BOTTOM(1.3V)
	VREF1R3V	REFERENCE VOLTAGE 1.3V
	VREF3R3V	REFERENCE VOLTAGE 3.3V
	VREFH	REFERENCE VOLTAGE HIGH SIDE
	VREFL	REFERENCE VOLTAGE LOW SIDE
	VRI	REFERENCE VOLTAGE INPUT
	VRO	REFERENCE VOLTAGE OUTPUT
	VRT	VOLTAGE REFERENCE TOP(3.3V)
	VSS	VERTICAL SYNC SIGNAL
W	WAD OR WAE	WRITE ADDRESS ENABLE
	WE	WRITE ENABLE
	WHD	WIDE HORIZONTAL DRIVE PULSE
Y	Y0~Y7(Y8)	8BIT(9BIT)LUMINANCE DIGITAL SIGNAL
	YNCST	NOISE CANCELER
	YNR	NOISE REDUCTION
Z	Z ENC	ZOOM ENCODER
	Z-MIC	ZOOM MIC
	ZENC1/ZENC4	ZOOM ENCEODER OUTPUT
	ZMTER	ZOOM MOTOR TELE SIDE
	ZMT(+)/(-)	ZOOM MOTOR (+)/(-)
	ZMW	ZOOM MOTOR WIDE SIDE

3-2. OVERALL BLOCK DIAGRAM


EVR or PC
CAM OP
VTR OP
S/S
IC5001 HAED AMP IC AN3355FHP
KEYIN0~5 SCAN 0~3
PCSSCK PCSSBO PCSSBI
EXT 5P
IC6001 SYSCON/SRV/DSP u COM MN6755486
P · B FM IN
Y OUT
YCTL/PBYCTL CCTL/YNRCNT
IC3001 Y/C MIX IC HA118401F
IC6003 OSD IC
SCK,SBOO,SBIO,CGCS
EEH,SCR/H. H.SW
FNO
SSGRESET
RECDATA,RDBLK
PWM
RECY/PBFSC,RECC,EEY, LPH,EEC
SYSCKK SYSSBO, SYSLD
IC6004 E2PROM IC S29533A
CAMCLK,CAMSBO,CAMSBI,DSP_CS,AF_CS,DAC_CS, E2 CS,AFRESET,BEND
2/3FCK
IC301 DSP LSI IC F432512APZ
52
IC302 D/A M62366GP
89~95
V1,V2,V3,V4,CH1,CH2,SUB
SUBV
2FCK,HCLR
ZOOM CTL
ZOOM AD
54
IC710 MN1882421 AF DSP
AFSCK,AFDATA
AD IN
FCK
21
PBLK,CPOB
FRONT OPERATION
MF
MF.VR1 MF.VR2 IR OUT
62~65
32~35
FL201 ELB3H009
IC203 CDS/AGC/γ IC MN2035FAQ
IC202 VDRIVE IC MN31121SA
MOTOR DRIVE SIGNAL
MRESET,MCLK,CW/CCW,MENABLE
KNEE
CCDOUT
CP2
CCD (1/4" 510H)
VL, V1, V2, V3, V4, SUB
DS1,DS2
H1,H2, R
26~28
IC201 CG IC MN5224
3,48
IC701/702 TB6526F (×2) FOCUS/ZOOM DRIVE
9,10,14,16
PWM
LENS
BN,BP, AN,AP
POWER SW
ZOOM SW
PP401
VFK0734W
AV JACK

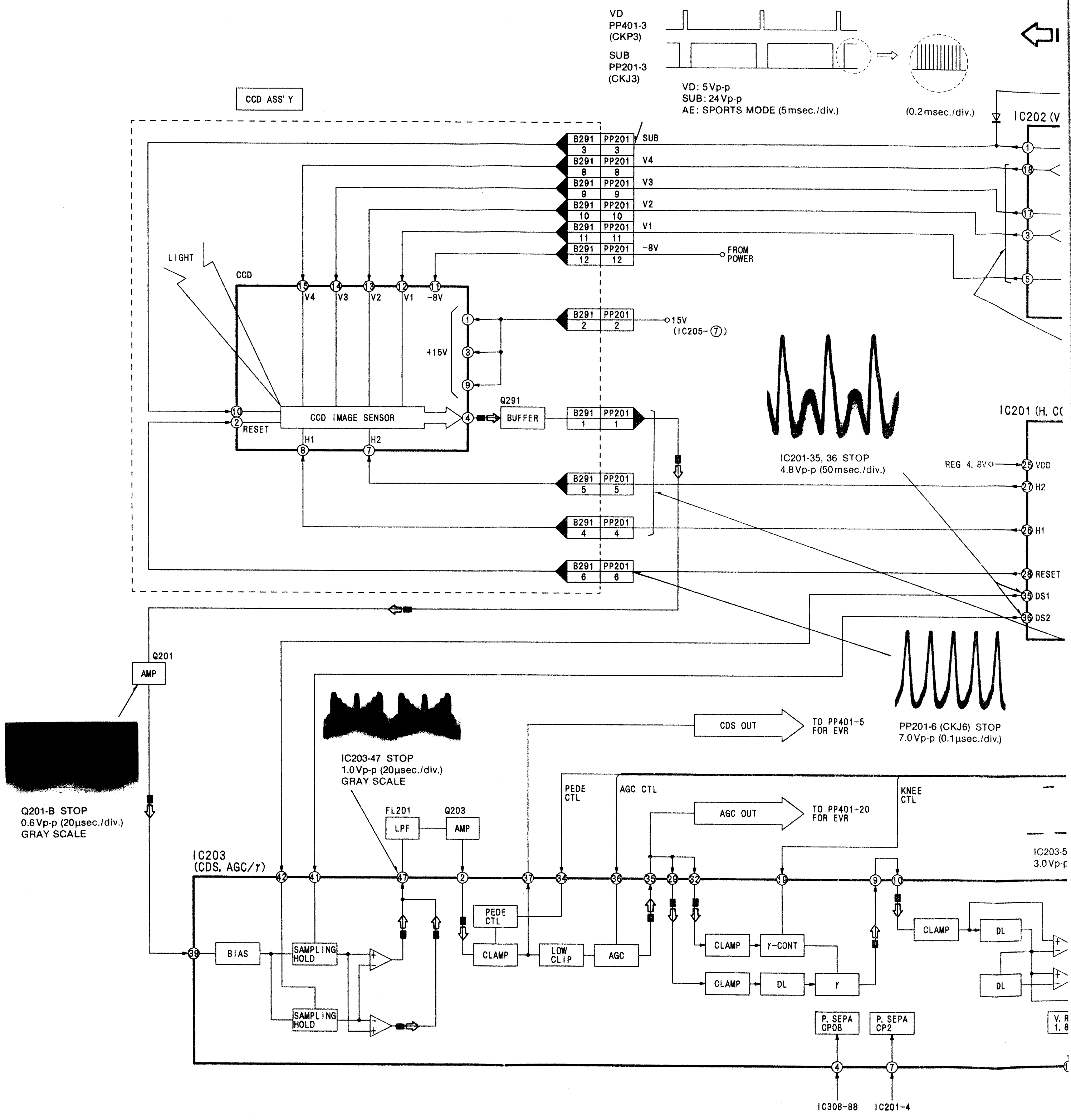
NOTE

*. If you want to spot the suspect regarding the defective circuit at the camera section, use VFK0734W **(PP401)** as a Test points.

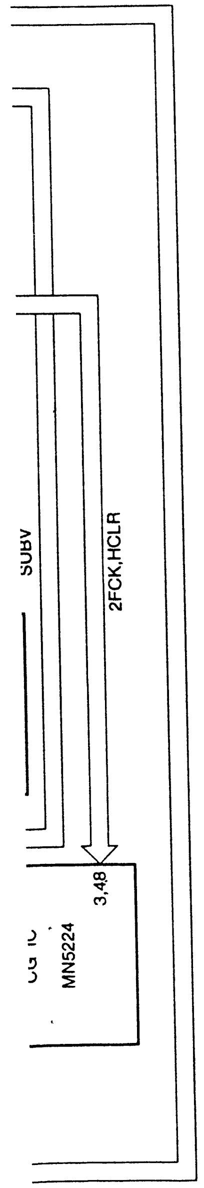
*. If the Iris closed, it is difficult to check the camera unit.
In this case, use following method to make Iris open.

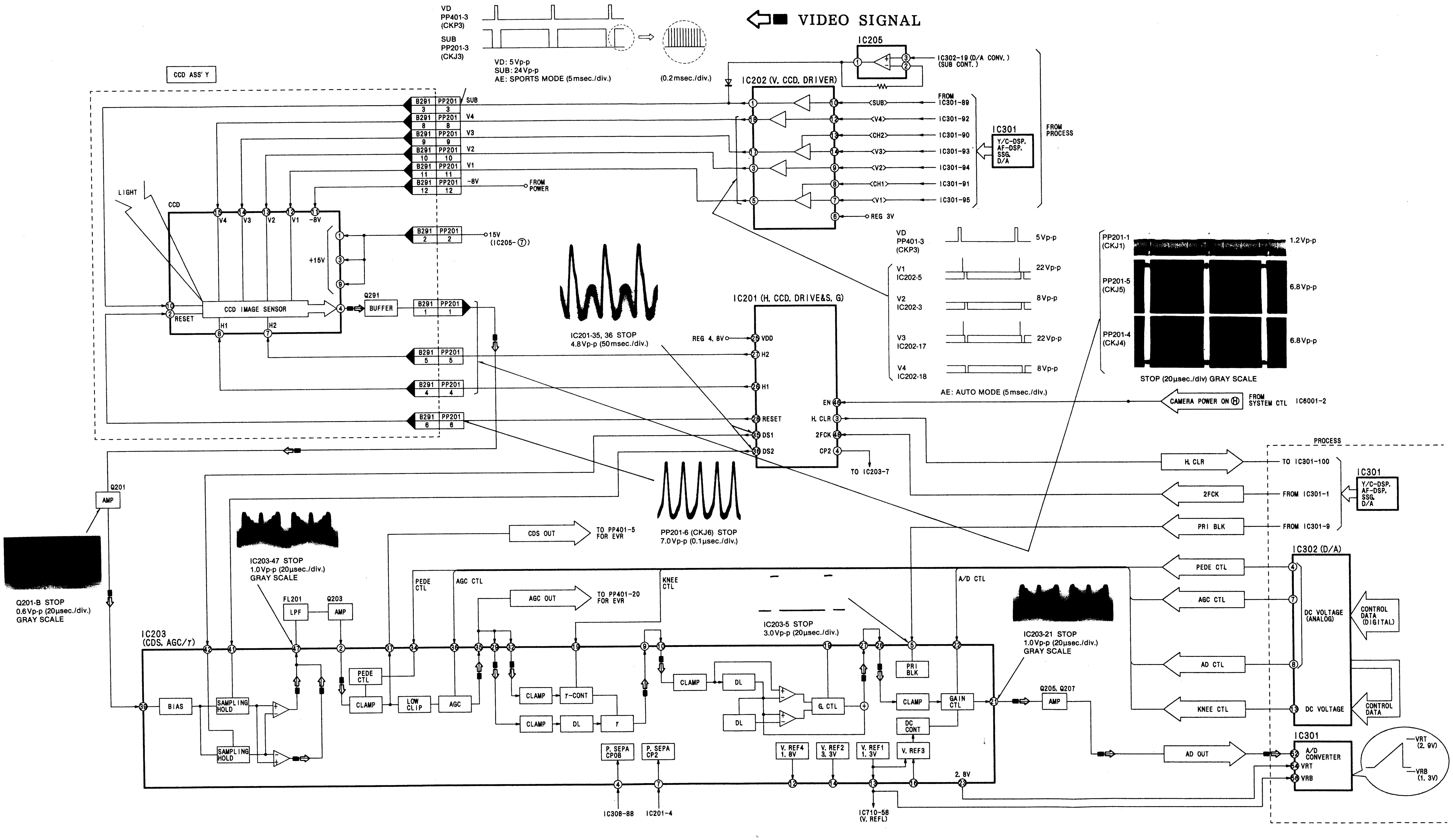
@. Connect VFK0734W 11pin and VFK0734W 5pin
(PP401) (PP401)

3-3. SENSOR BLOCK DIAGRAM


VD PP401-3 (CKP3)
SUB PP201-3 (CKJ3)
VD: 5Vp-p
SUB: 24Vp-p
AE: SPORTS MODE (5msec./div.)
(0.2msec./div.)
IC202 (V
CCD ASS' Y
B291 PP201
SUB
V4
V3
V2
V1
-8V
FROM POWER
LIGHT
CCD
+15V
15V (IC205-⑦)
Q291
BUFFER
CCD IMAGE SENSOR
RESET
H1
H2
IC201 (H, CC
IC201-35, 36 STOP 4.8Vp-p (50msec./div.)
REG 4, 8V
VDD
H2
H1
RESET
DS1
DS2
Q201
AMP
Q201-B STOP 0.6Vp-p (20μsec./div.) GRAY SCALE
IC203-47 STOP 1.0Vp-p (20μsec./div.) GRAY SCALE
CDS OUT
TO PP401-5 FOR EVR
PP201-6 (CKJ6) STOP 7.0Vp-p (0.1μsec./div.)
PEDE CTL
AGC CTL
KNEE CTL
AGC OUT
TO PP401-20 FOR EVR
FL201
Q203
LPF
AMP
IC203 (CDS, AGC/γ)
IC203-5 3.0Vp-p
BIAS
SAMPLING HOLD
PEDE CTL
CLAMP
LOW CLIP
AGC
CLAMP
γ-CONT
CLAMP
DL
γ
CLAMP
DL
P. SEPA CPOB
P. SEPA CP2
V. R 1, 8
IC308-88
IC201-4

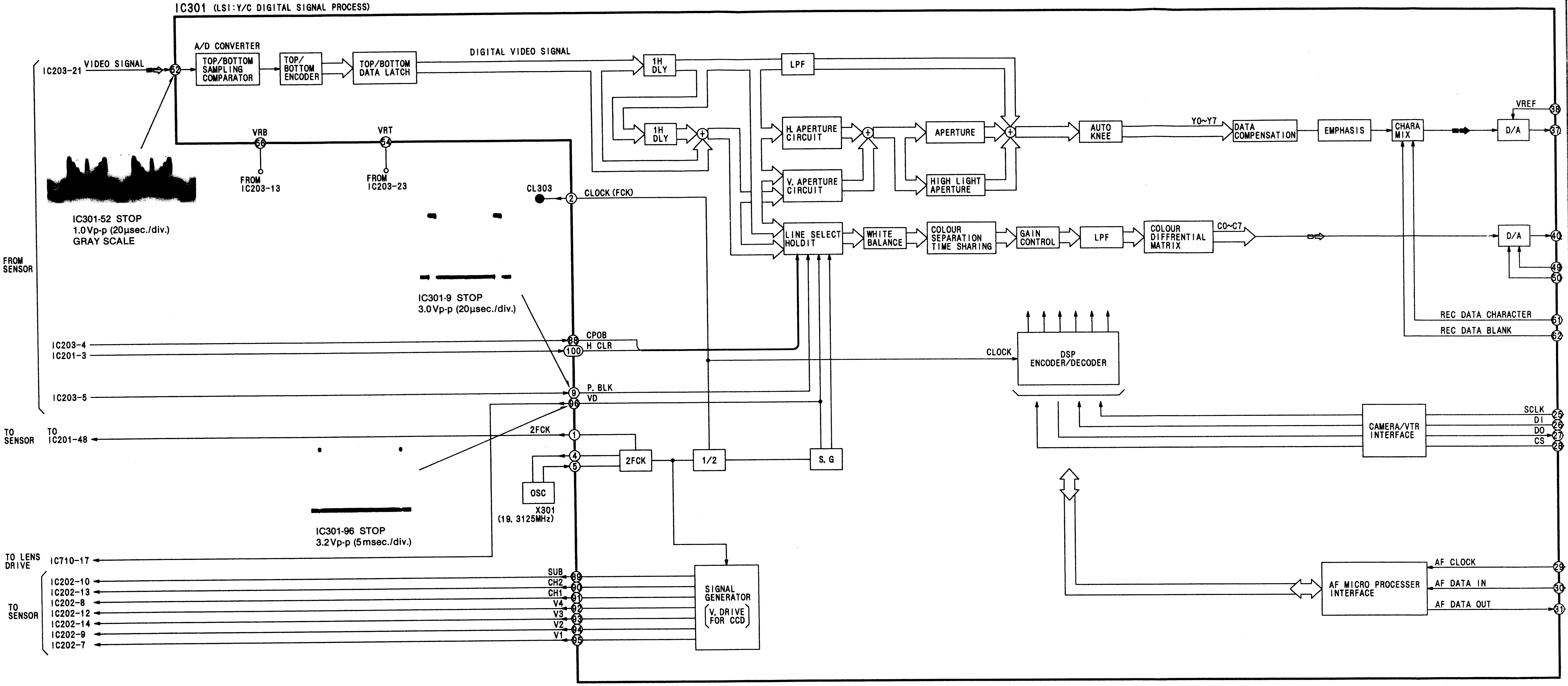
3-3. SENSOR BLOCK DIAGRAM

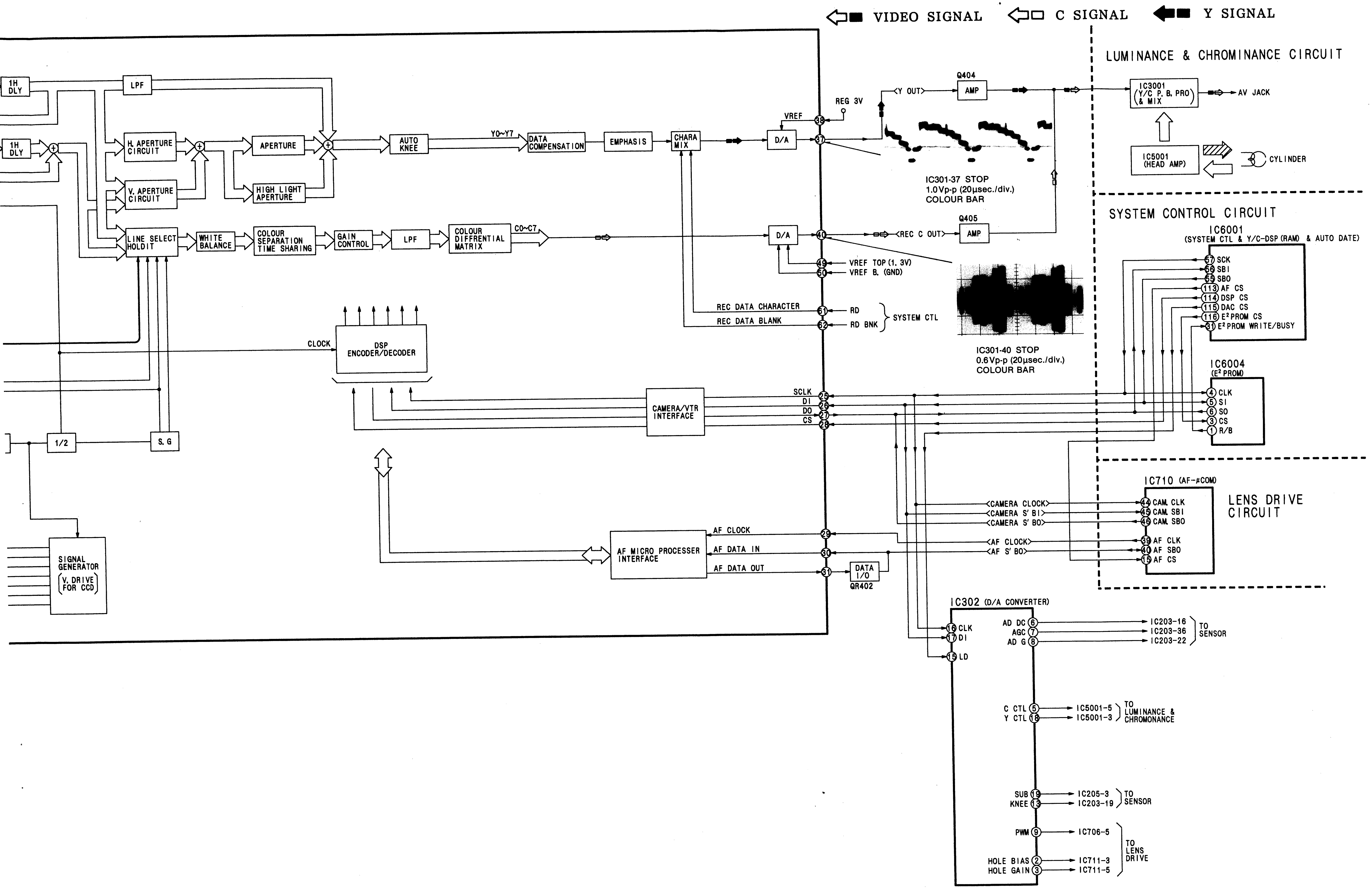

SUBV
2FCK,HCLR
3,48
MN5224


VIDEO SIGNAL
VD PP401-3 (CKP3)
SUB PP201-3 (CKJ3)
VD: 5Vp-p
SUB: 24Vp-p
AE: SPORTS MODE (5msec./div.)
(0.2msec./div.)
CCD ASS'Y
B291
PP201
SUB
V4
V3
V2
V1
-8V
FROM POWER
LIGHT
CCD
CCD IMAGE SENSOR
RESET
H1
H2
+15V
15V (IC205-⑦)
Q291
BUFFER
IC205
IC302-19 (D/A CONV.) (SUB CONT.)
IC202 (V. CCD. DRIVER)
FROM IC301-89
IC301-92
IC301-90
IC301-93
IC301-94
IC301-91
IC301-95
REG 3V
IC301
Y/C-DSP. AF-DSP. SSG. D/A
FROM PROCESS
VD PP401-3 (CKP3) 5Vp-p
V1 IC202-5 22Vp-p
V2 IC202-3 8Vp-p
V3 IC202-17 22Vp-p
V4 IC202-18 8Vp-p
AE: AUTO MODE (5msec./div.)
PP201-1 (CKJ1) 1.2Vp-p
PP201-5 (CKJ5) 6.8Vp-p
PP201-4 (CKJ4) 6.8Vp-p
STOP (20μsec./div) GRAY SCALE
IC201-35, 36 STOP 4.8Vp-p (50msec./div.)
IC201 (H. CCD. DRIVE&S. G)
REG 4. 8V
VDD
H2
H1
RESET
DS1
DS2
EN
H. CLR
2FCK
CP2
TO IC203-7
CAMERA POWER ON Ⓗ
FROM SYSTEM CTL IC6001-2
PROCESS
H. CLR
TO IC301-100
2FCK
FROM IC301-1
PRI BLK
FROM IC301-9
IC301
Y/C-DSP. AF-DSP. SSG. D/A
PP201-6 (CKJ6) STOP 7.0Vp-p (0.1μsec./div.)
Q201
AMP
Q201-B STOP 0.6Vp-p (20μsec./div.) GRAY SCALE
IC203-47 STOP 1.0Vp-p (20μsec./div.) GRAY SCALE
CDS OUT
TO PP401-5 FOR EVR
AGC OUT
TO PP401-20 FOR EVR
FL201
LPF
Q203
AMP
PEDE CTL
AGC CTL
KNEE CTL
A/D CTL
IC203-5 STOP 3.0Vp-p (20μsec./div.)
IC203-21 STOP 1.0Vp-p (20μsec./div.) GRAY SCALE
IC203 (CDS, AGC/γ)
BIAS
SAMPLING HOLD
SAMPLING HOLD
PEDE CTL
CLAMP
LOW CLIP
AGC
CLAMP
γ-CONT
CLAMP
DL
γ
CLAMP
DL
DL
G. CTL
PRI BLK
CLAMP
GAIN CTL
DC CONT
V. REF3
P. SEPA CPOB
P. SEPA CP2
V. REF4 1. 8V
V. REF2 3. 3V
V. REF1 1. 3V
2. 8V
IC308-88
IC201-4
IC710-58 (V. REFL)
Q205, Q207
AMP
AD OUT
IC302 (D/A)
PEDE CTL
AGC CTL
AD CTL
KNEE CTL
DC VOLTAGE (ANALOG)
DC VOLTAGE
CONTROL DATA (DIGITAL)
CONTROL DATA
IC301
A/D CONVERTER
VRT
VRB
VRT (2. 9V)
VRB (1. 3V)

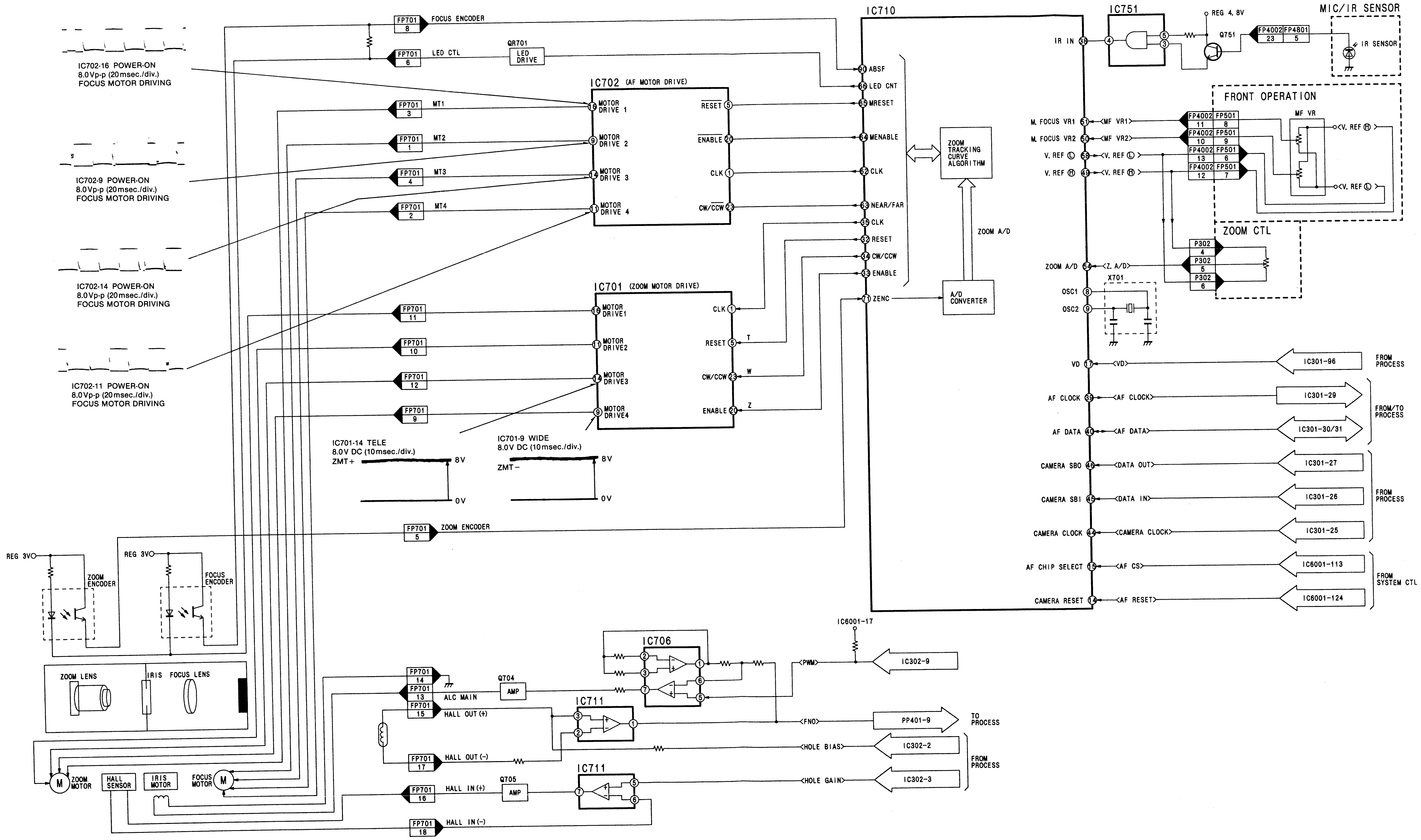
Next Page:
PROCESS Section

3-4. PROCESS BLOCK DIAGRAM


IC301 (LSI:Y/C DIGITAL SIGNAL PROCESS)
IC203-21
VIDEO SIGNAL
A/D CONVERTER
TOP/BOTTOM SAMPLING COMPARATOR
TOP/ BOTTOM ENCODER
TOP/BOTTOM DATA LATCH
DIGITAL VIDEO SIGNAL
1H DLY
1H DLY
LPF
H. APERTURE CIRCUIT
V. APERTURE CIRCUIT
APERTURE
HIGH LIGHT APERTURE
AUTO KNEE
Y0~Y7
DATA COMPENSATION
EMPHASIS
CHARA MIX
VREF
D/A
LINE SELECT HOLDIT
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFRENTIAL MATRIX
C0~C7
D/A
VRB
VRT
FROM IC203-13
FROM IC203-23
IC301-52 STOP
1.0Vp-p (20µsec./div.)
GRAY SCALE
CL303
CLOCK (FCK)
IC301-9 STOP
3.0Vp-p (20µsec./div.)
FROM SENSOR
IC203-4
IC201-3
CPOB
H CLR
IC203-5
P. BLK
VD
REC DATA CHARACTER
REC DATA BLANK
CLOCK
DSP ENCODER/DECODER
TO SENSOR
TO IC201-48
2FCK
2FCK
1/2
S. G
OSC
X301 (19. 3125MHz)
CAMERA/VTR INTERFACE
SCLK
DI
DO
CS
IC301-96 STOP
3.2Vp-p (5msec./div.)
TO LENS DRIVE
IC710-17
TO SENSOR
IC202-10
IC202-13
IC202-8
IC202-12
IC202-14
IC202-9
IC202-7
SUB
CH2
CH1
V4
V3
V2
V1
SIGNAL GENERATOR (V. DRIVE FOR CCD)
AF MICRO PROCESSER INTERFACE
AF CLOCK
AF DATA IN
AF DATA OUT
52
56
54
2
38
100
9
96
1
4
5
89
90
91
92
93
94
95
38
37
40
49
50
61
62
25
26
27
28
29
30
31

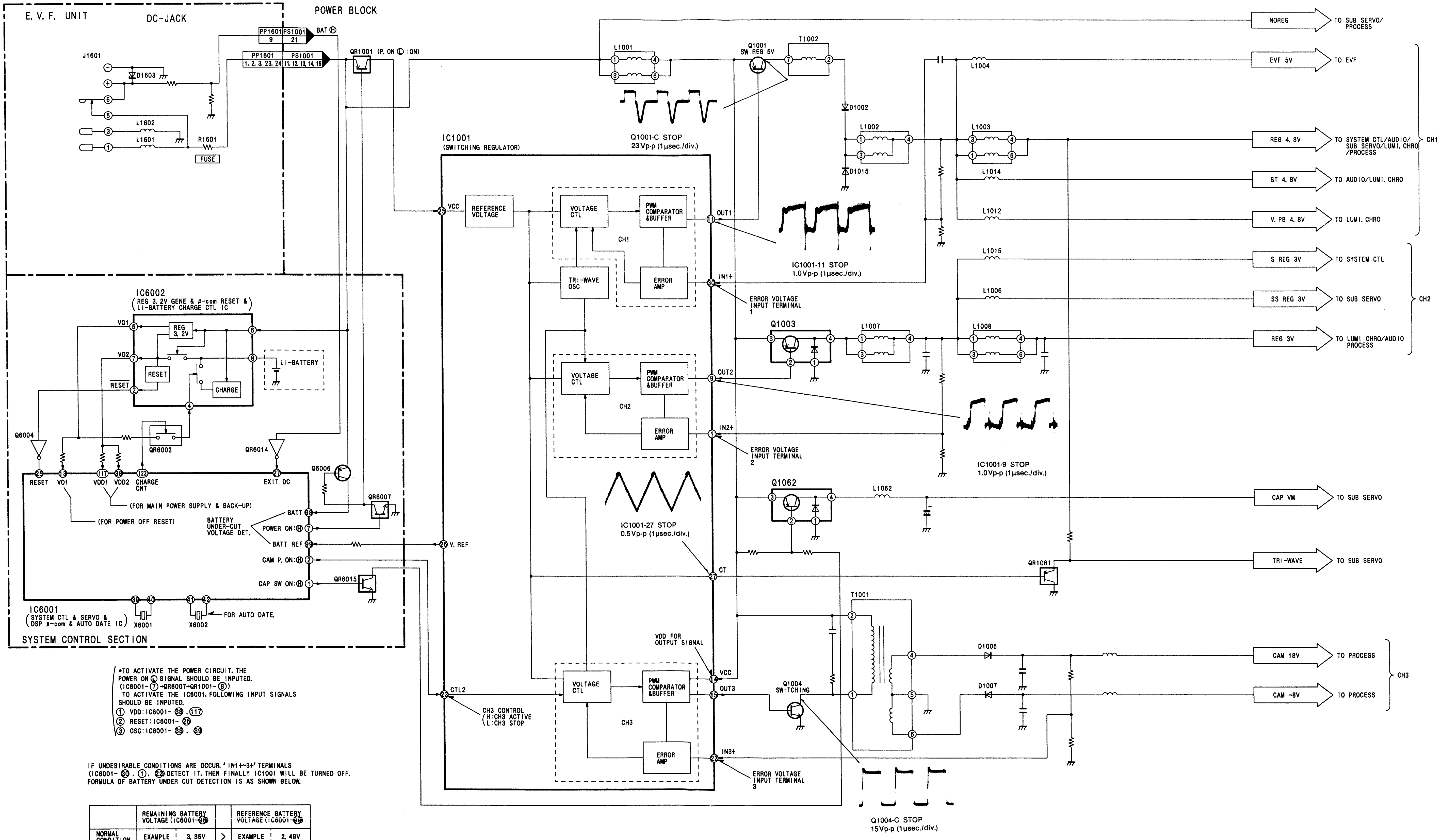

VIDEO SIGNAL
C SIGNAL
Y SIGNAL
1H DLY
1H DLY
LPF
H. APERTURE CIRCUIT
V. APERTURE CIRCUIT
APERTURE
HIGH LIGHT APERTURE
AUTO KNEE
Y0~Y7
DATA COMPENSATION
EMPHASIS
CHARA MIX
D/A
VREF
REG 3V
38
37
LINE SELECT HOLDIT
WHITE BALANCE
COLOUR SEPARATION TIME SHARING
GAIN CONTROL
LPF
COLOUR DIFFRENTIAL MATRIX
C0~C7
D/A
40
49 VREF TOP (1. 3V)
50 VREF B. (GND)
REC DATA CHARACTER
REC DATA BLANK
61 RD
62 RD BNK
SYSTEM CTL
CLOCK
DSP ENCODER/DECODER
CAMERA/VTR INTERFACE
SCLK 25
DI 26
DO 27
CS 28
1/2
S. G
SIGNAL GENERATOR (V. DRIVE FOR CCD)
AF MICRO PROCESSER INTERFACE
AF CLOCK 29
AF DATA IN 30
AF DATA OUT 31
DATA I/O
QR402
Q404
<Y OUT>
AMP
Q405
<REC C OUT>
AMP
IC301-37 STOP
1.0Vp-p (20µsec./div.)
COLOUR BAR
IC301-40 STOP
0.6Vp-p (20µsec./div.)
COLOUR BAR
LUMINANCE & CHROMINANCE CIRCUIT
IC3001 (Y/C P. B. PRO & MIX)
AV JACK
IC5001 (HEAD AMP)
CYLINDER
SYSTEM CONTROL CIRCUIT
IC6001
(SYSTEM CTL & Y/C-DSP (RAM) & AUTO DATE)
57 SCK
56 SBI
55 SBO
113 AF CS
114 DSP CS
115 DAC CS
116 E²PROM CS
31 E²PROM WRITE/BUSY
IC6004
(E² PROM)
4 CLK
5 SI
6 SO
3 CS
1 R/B
<CAMERA CLOCK>
<CAMERA S' BI>
<CAMERA S' BO>
<AF CLOCK>
<AF S' BO>
IC710 (AF-µCOM)
44 CAM. CLK
45 CAM. SBI
46 CAM. SBO
39 AF CLK
40 AF SBO
15 AF CS
LENS DRIVE CIRCUIT
IC302 (D/A CONVERTER)
16 CLK
17 DI
15 LD
AD DC 6
AGC 7
AD G 8
IC203-16
IC203-36
IC203-22
TO SENSOR
C CTL 5
Y CTL 18
IC5001-5
IC5001-3
TO LUMINANCE & CHROMONANCE
SUB 19
KNEE 13
IC205-3
IC203-19
TO SENSOR
PWM 9
IC706-5
HOLE BIAS 2
HOLE GAIN 3
IC711-3
IC711-5
TO LENS DRIVE

3-5. LENS DRIVE BLOCK DIAGRAM



IC702-16 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-9 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-14 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-11 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
FP701 8 FOCUS ENCODER
FP701 6 LED CTL
QR701 LED DRIVE
IC702 (AF MOTOR DRIVE)
FP701 3 MT1
FP701 1 MT2
FP701 4 MT3
FP701 2 MT4
16 MOTOR DRIVE 1
9 MOTOR DRIVE 2
14 MOTOR DRIVE 3
11 MOTOR DRIVE 4
RESET 5
ENABLE 20
CLK 1
CW/CCW 23
IC701 (ZOOM MOTOR DRIVE)
FP701 11
FP701 10
FP701 12
FP701 9
16 MOTOR DRIVE1
11 MOTOR DRIVE2
14 MOTOR DRIVE3
9 MOTOR DRIVE4
CLK 1
RESET 5
CW/CCW 23
ENABLE 20
T
W
Z
IC701-14 TELE
8.0V DC (10msec./div.)
ZMT+
8V
0V
IC701-9 WIDE
8.0V DC (10msec./div.)
ZMT−
8V
0V
FP701 5 ZOOM ENCODER
IC710
90 ABSF
66 LED CNT
65 MRESET
64 MENABLE
62 CLK
63 NEAR/FAR
35 CLK
32 RESET
34 CW/CCW
33 ENABLE
71 ZENC
ZOOM TRACKING CURVE ALGORITHM
ZOOM A/D
A/D CONVERTER
IC751
REG 4.8V
Q751
MIC/IR SENSOR
FP4002 23
FP4801 5
IR SENSOR
IR IN 38
4
5
3
FRONT OPERATION
MF VR
M. FOCUS VR1 51 <MF VR1>
M. FOCUS VR2 50 <MF VR2>
V. REF Ⓛ 58 <V. REF Ⓛ>
V. REF Ⓗ 49 <V. REF Ⓗ>
FP4002 11 FP501 8
FP4002 10 FP501 9
FP4002 13 FP501 6
FP4002 12 FP501 7
<V. REF Ⓗ>
<V. REF Ⓛ>
ZOOM CTL
P302 4
P302 5
P302 6
ZOOM A/D 54 <Z. A/D>
X701
OSC1 8
OSC2 9
VD 17 <VD>
IC301-96
FROM PROCESS
AF CLOCK 39 <AF CLOCK>
IC301-29
AF DATA 40 <AF DATA>
IC301-30/31
FROM/TO PROCESS
CAMERA SBO 46 <DATA OUT>
IC301-27
CAMERA SBI 45 <DATA IN>
IC301-26
CAMERA CLOCK 44 <CAMERA CLOCK>
IC301-25
FROM PROCESS
AF CHIP SELECT 15 <AF CS>
IC6001-113
CAMERA RESET 14 <AF RESET>
IC6001-124
FROM SYSTEM CTL
REG 3V
ZOOM ENCODER
REG 3V
FOCUS ENCODER
ZOOM LENS
IRIS
FOCUS LENS
IC706
IC6001-17
<PWM>
IC302-9
FP701 14
FP701 13 ALC MAIN
FP701 15 HALL OUT (+)
Q704 AMP
IC711
<FNO>
PP401-9
TO PROCESS
<HOLE BIAS>
IC302-2
FP701 17 HALL OUT (−)
<HOLE GAIN>
IC302-3
FROM PROCESS
FP701 16 HALL IN (+)
Q705 AMP
IC711
FP701 18 HALL IN (−)
M ZOOM MOTOR
HALL SENSOR
IRIS MOTOR
FOCUS MOTOR M

3-6. POWER BLOCK DIAGRAM


E. V. F. UNIT
DC-JACK
POWER BLOCK
J1601
D1603
L1602
L1601
R1601
FUSE
PP1601 PS1001 9 21
BAT Ⓗ
PP1601 PS1001 1, 2, 3, 23, 24 11, 12, 13, 14, 15
QR1001 (P. ON Ⓛ :ON)
IC6002
(REG 3.2V GENE & μ-com RESET & LI-BATTERY CHARGE CTL IC)
VO1
VO2
RESET
REG 3.2V
RESET
CHARGE
LI-BATTERY
Q6004
QR6002
QR6014
Q6006
QR6007
RESET
VO1
VDD1
VDD2
CHARGE CNT
EXIT DC
(FOR MAIN POWER SUPPLY & BACK-UP)
(FOR POWER OFF RESET)
BATTERY UNDER-CUT VOLTAGE DET.
BATT
POWER ON:Ⓗ
BATT REF
CAM P. ON:Ⓗ
CAP SW ON:Ⓗ
QR6015
IC6001
(SYSTEM CTL & SERVO & DSP μ-com & AUTO DATE IC)
X6001
X6002
FOR AUTO DATE.
SYSTEM CONTROL SECTION
IC1001
(SWITCHING REGULATOR)
VCC
REFERENCE VOLTAGE
VOLTAGE CTL
PWM COMPARATOR &BUFFER
CH1
TRI-WAVE OSC
ERROR AMP
OUT1
IN1+
VOLTAGE CTL
PWM COMPARATOR &BUFFER
CH2
ERROR AMP
OUT2
IN2+
V. REF
CT
IC1001-27 STOP
0.5Vp-p (1μsec./div.)
VDD FOR OUTPUT SIGNAL
CTL2
CH3 CONTROL
(H:CH3 ACTIVE
L:CH3 STOP)
VOLTAGE CTL
PWM COMPARATOR &BUFFER
CH3
ERROR AMP
VCC
OUT3
IN3+
L1001
Q1001 SW REG 5V
T1002
Q1001-C STOP
23Vp-p (1μsec./div.)
D1002
L1002
D1015
IC1001-11 STOP
1.0Vp-p (1μsec./div.)
ERROR VOLTAGE INPUT TERMINAL 1
Q1003
L1007
IC1001-9 STOP
1.0Vp-p (1μsec./div.)
ERROR VOLTAGE INPUT TERMINAL 2
Q1062
L1062
QR1061
T1001
Q1004 SWITCHING
D1006
D1007
ERROR VOLTAGE INPUT TERMINAL 3
Q1004-C STOP
15Vp-p (1μsec./div.)
L1004
L1003
L1014
L1012
L1015
L1006
L1008
NOREG
TO SUB SERVO/ PROCESS
EVF 5V
TO EVF
REG 4.8V
TO SYSTEM CTL/AUDIO/ SUB SERVO/LUMI. CHRO /PROCESS
ST 4.8V
TO AUDIO/LUMI. CHRO
V. PB 4.8V
TO LUMI. CHRO
CH1
S REG 3V
TO SYSTEM CTL
SS REG 3V
TO SUB SERVO
REG 3V
TO LUMI CHRO/AUDIO PROCESS
CH2
CAP VM
TO SUB SERVO
TRI-WAVE
TO SUB SERVO
CAM 18V
TO PROCESS
CAM -8V
TO PROCESS
CH3

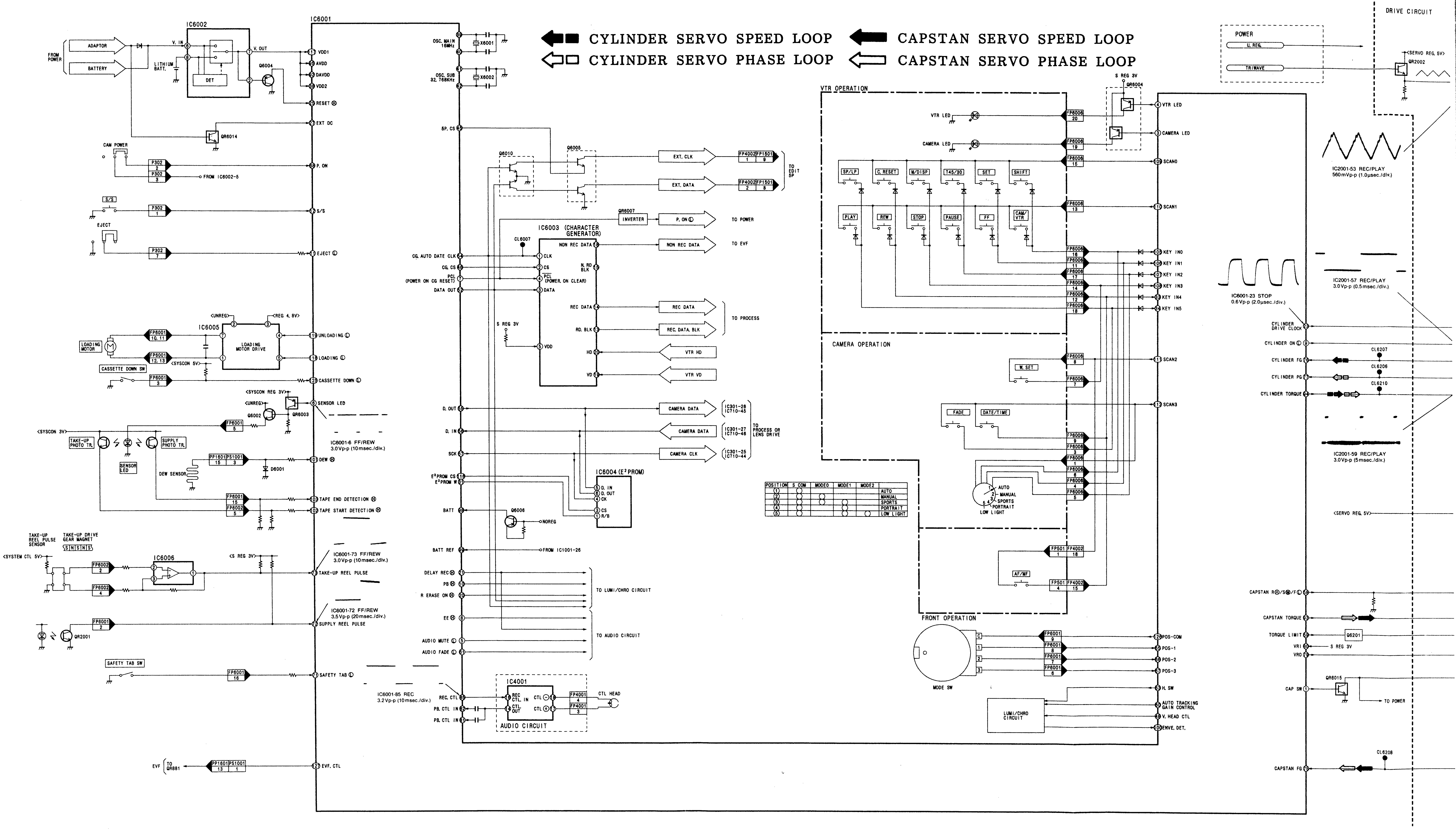
•TO ACTIVATE THE POWER CIRCUIT, THE POWER ON Ⓛ SIGNAL SHOULD BE INPUTED.
(IC6001-⑦→QR6007→QR1001-Ⓑ)
TO ACTIVATE THE IC6001, FOLLOWING INPUT SIGNALS SHOULD BE INPUTED.
① VDD: IC6001- ㊳, (117)
② RESET: IC6001- ㉕
③ OSC: IC6001- ㊳, ㊴

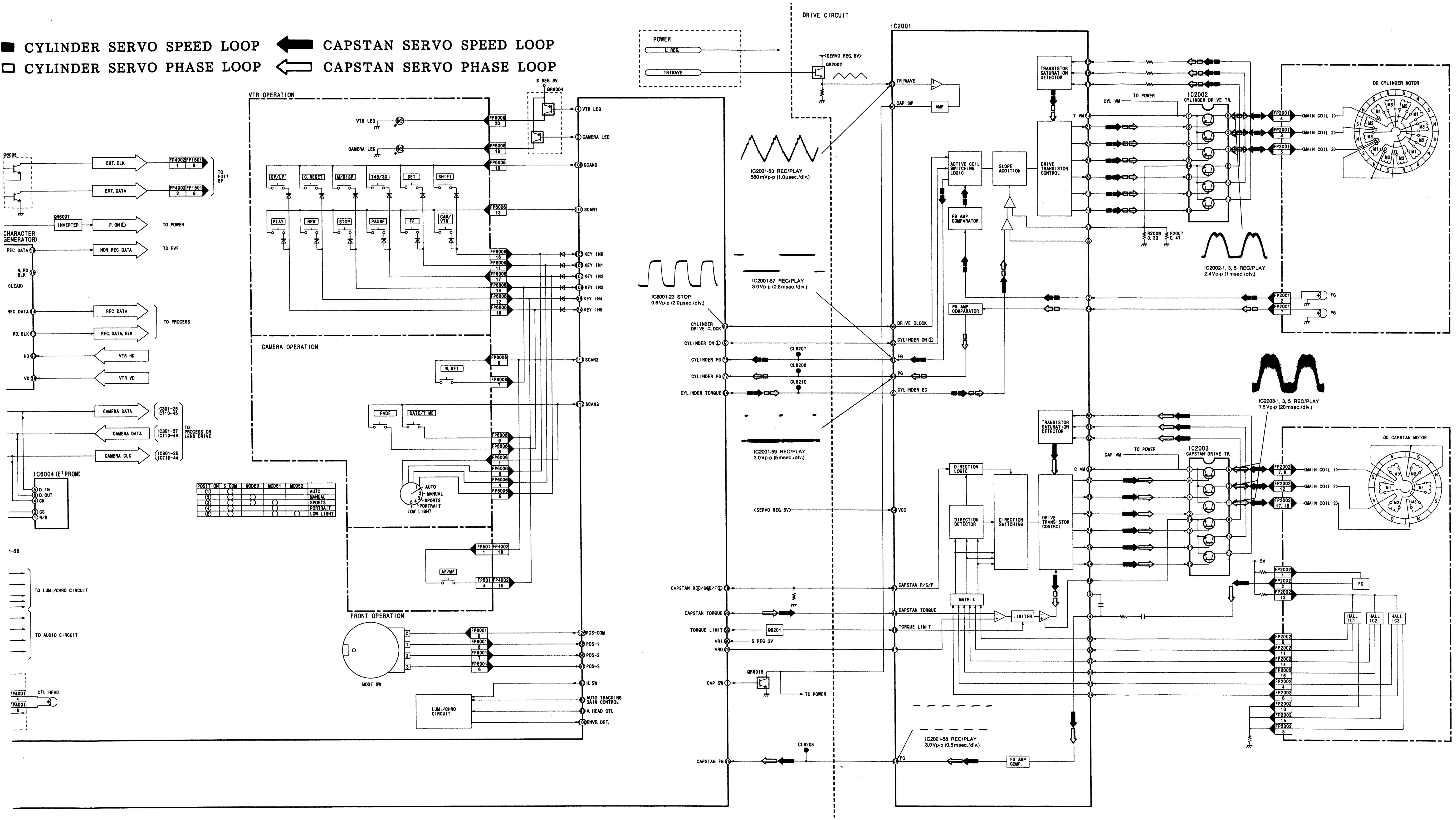
IF UNDESIRABLE CONDITIONS ARE OCCUR, ' IN1+~3+' TERMINALS (IC6001- ㉚, ①, ㉒ DETECT IT, THEN FINALLY IC1001 WILL BE TURNED OFF.
FORMULA OF BATTERY UNDER CUT DETECTION IS AS SHOWN BELOW.

	REMAINING BATTERY VOLTAGE (IC6001-(98))			REFERENCE BATTERY VOLTAGE (IC6001-(99))	
NORMAL CONDITION	EXAMPLE	3.35V	>	EXAMPLE	2.49V
UNDERCUT		2.49V	≦		2.49V

Back Page:
LENS DRIVE Section

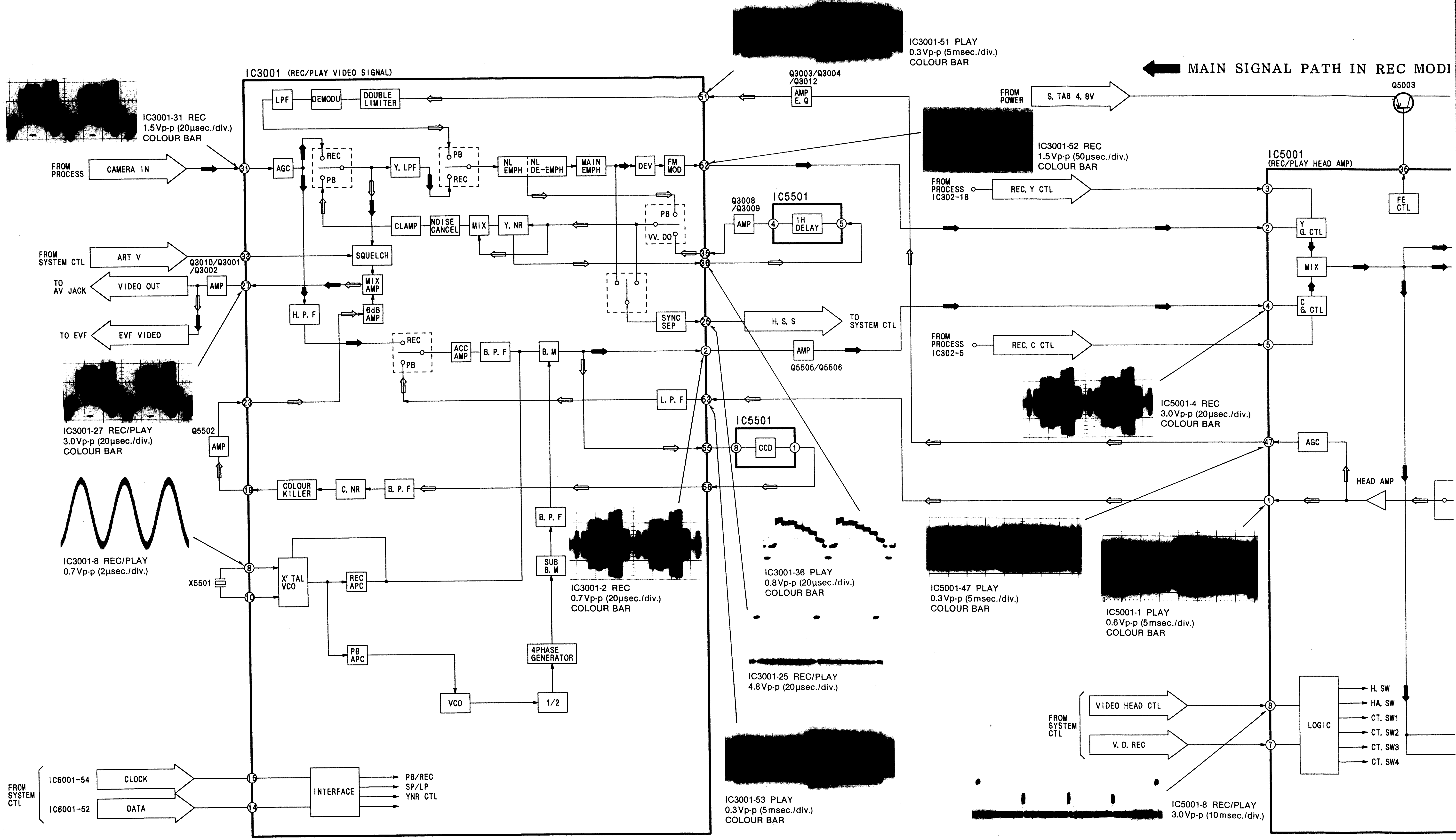
3-7. SYSTEM CONTROL & SERVO BLOCK DIAGRAM


CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
IC6001
IC6002
FROM POWER
ADAPTOR
BATTERY
V. IN
V. OUT
LITHIUM BATT.
DET
Q6004
VDD1
AVDD
DAVDD
VDD2
RESET
EXT DC
QR6014
CAM POWER
P302
P. ON
FROM IC6002-5
S/S
EJECT
IC6005
LOADING MOTOR DRIVE
LOADING MOTOR
<UNREG>
<REG 4. 8V>
<SYSCON 5V>
CASSETTE DOWN SW
FP6001
UNLOADING
LOADING
CASSETTE DOWN
<SYSCON REG 3V>
Q6002
QR6003
SENSOR LED
<SYSCON 3V>
TAKE-UP PHOTO TR.
SUPPLY PHOTO TR.
SENSOR LED
PP1601
PS1001
DEW SENSOR
D6001
DEW
IC6001-6 FF/REW 3.0Vp-p (10msec./div.)
TAPE END DETECTION
TAPE START DETECTION
FP6002
TAKE-UP REEL PULSE SENSOR
TAKE-UP DRIVE GEAR MAGNET
<SYSTEM CTL 5V>
IC6006
<S REG 3V>
IC6001-73 FF/REW 3.0Vp-p (10msec./div.)
TAKE-UP REEL PULSE
IC6001-72 FF/REW 3.5Vp-p (20msec./div.)
SUPPLY REEL PULSE
QR2001
SAFETY TAB SW
SAFETY TAB
IC6001-85 REC 3.2Vp-p (10msec./div.)
EVF
TO QR881
EVF. CTL
OSC. MAIN 16MHz
X6001
OSC. SUB 32. 768KHz
X6002
SP. CS
Q6010
Q6005
EXT. CLK
EXT. DATA
FP4002
FP1501
TO EDIT SP
QR6007
INVERTER
P. ON
TO POWER
IC6003 (CHARACTER GENERATOR)
CL6007
NON REC DATA
TO EVF
CG. AUTO DATE CLK
CG. CS
PCL (POWER ON CG RESET)
DATA OUT
CLK
CS
PCL (POWER. ON CLEAR)
DATA
N. RD BLK
REC DATA
RD. BLK
REC. DATA. BLK
TO PROCESS
S REG 3V
VDD
HD
VD
VTR HD
VTR VD
D. OUT
D. IN
SCK
CAMERA DATA
CAMERA CLK
IC301-26 IC710-45
IC301-27 IC710-46
IC301-25 IC710-44
TO PROCESS OR LENS DRIVE
E²PROM CS
E²PROM W
IC6004 (E²PROM)
D. IN
D. OUT
CK
CS
R/B
BATT
Q6006
NOREG
BATT REF
FROM IC1001-26
DELAY REC
PB
R ERASE ON
TO LUMI/CHRO CIRCUIT
EE
AUDIO MUTE
AUDIO FADE
TO AUDIO CIRCUIT
IC4001
AUDIO CIRCUIT
REC. CTL
PB. CTL IN
PB. CTL IN
REC CTL. IN
CTL. OUT
CTL
FP4001
CTL HEAD
VTR OPERATION
VTR LED
CAMERA LED
FP6006
SP/LP
C. RESET
M/DISP
T45/30
SET
SHIFT
PLAY
REW
STOP
PAUSE
FF
CAM/VTR
CAMERA OPERATION
W. SET
FADE
DATE/TIME
AUTO
MANUAL
SPORTS
PORTRAIT
LOW LIGHT
POSITION
S COM
MODE0
MODE1
MODE2
AF/MF
FP501
FRONT OPERATION
MODE SW
LUMI/CHRO CIRCUIT
S REG 3V
QR6004
VTR LED
CAMERA LED
SCAN0
SCAN1
KEY IN0
KEY IN1
KEY IN2
KEY IN3
KEY IN4
KEY IN5
SCAN2
SCAN3
POS-COM
POS-1
POS-2
POS-3
H. SW
AUTO TRACKING GAIN CONTROL
V. HEAD CTL
ENVE. DET.
POWER
U. REG
TRIWAVE
DRIVE CIRCUIT
<SERVO REG. 5V>
QR2002
IC2001-53 REC/PLAY 560mVp-p (1.0μsec./div.)
IC2001-57 REC/PLAY 3.0Vp-p (0.5msec./div.)
IC6001-23 STOP 0.6Vp-p (2.0μsec./div.)
IC2001-59 REC/PLAY 3.0Vp-p (5msec./div.)
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
CL6207
CL6206
CL6210
<SERVO REG. 5V>
CAPSTAN R/S/F/C
CAPSTAN TORQUE
TORQUE LIMIT
Q6201
VR1
S REG 3V
VR0
QR6015
CAP SW
TO POWER
CL6208
CAPSTAN FG

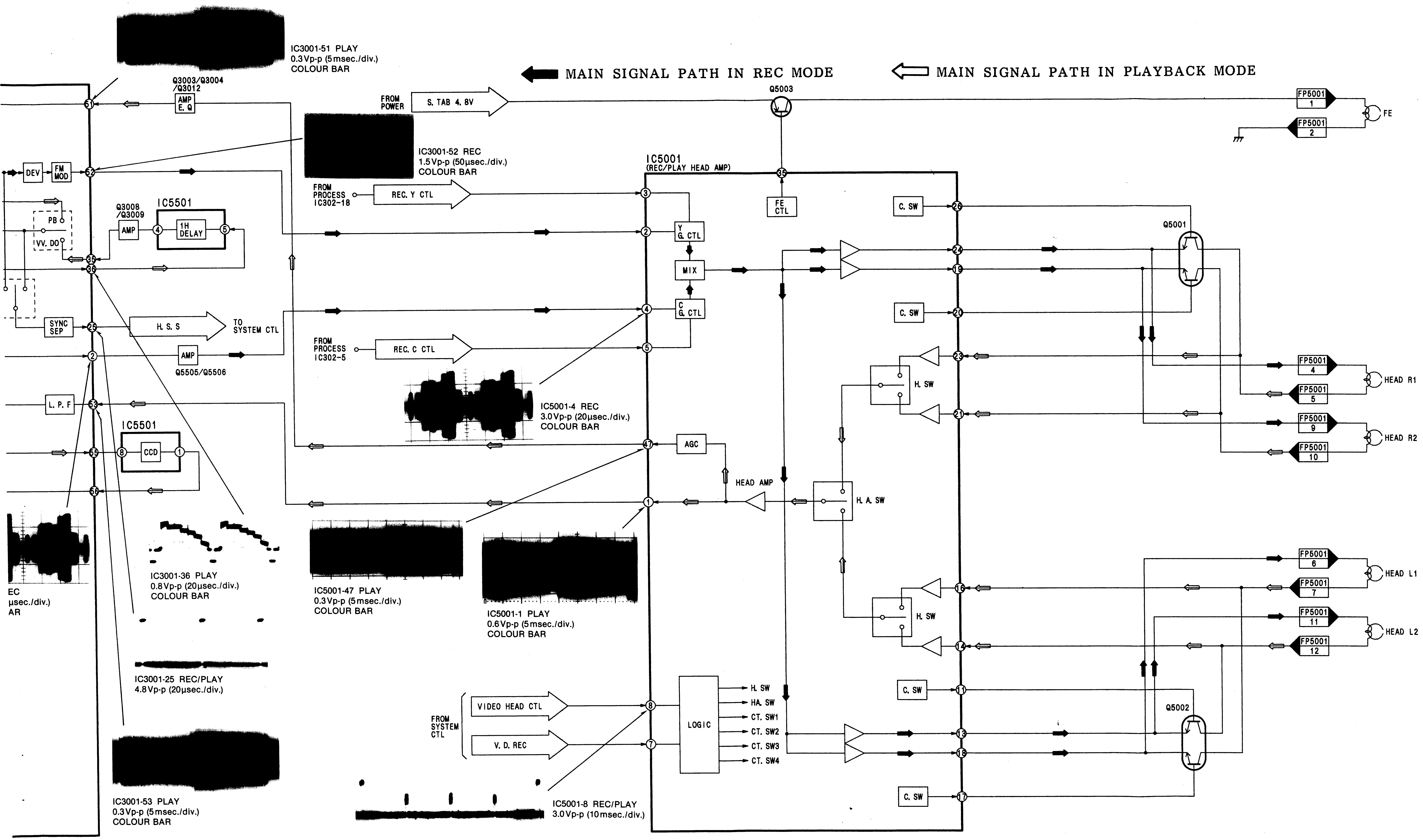

■ CYLINDER SERVO SPEED LOOP
□ CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
DRIVE CIRCUIT
IC2001
POWER
U. REG.
TRIWAVE
<SERVO REG. 5V>
QR2002
S REG 3V
QR6004
VTR OPERATION
VTR LED
CAMERA LED
SCAN0
SCAN1
SCAN2
SCAN3
SP/LP
C. RESET
M/DISP
T45/30
SET
SHIFT
PLAY
REW
STOP
PAUSE
FF
CAM/VTR
KEY IN0
KEY IN1
KEY IN2
KEY IN3
KEY IN4
KEY IN5
CAMERA OPERATION
W. SET
FADE
DATE/TIME
AUTO
MANUAL
SPORTS
PORTRAIT
LOW LIGHT
AF/MF
FRONT OPERATION
MODE SW
POS-COM
POS-1
POS-2
POS-3
H. SW
AUTO TRACKING GAIN CONTROL
V. HEAD CTL
ENVE. DET.
LUMI/CHRO CIRCUIT
EXT. CLK
EXT. DATA
TO EDIT 5P
QR6007
INVERTER
P. ON
TO POWER
CHARACTER GENERATOR)
REC DATA
NON REC DATA
TO EVF
N. RO BLK
CLEAR
RO. BLK
REC DATA BLK
TO PROCESS
HD
VD
VTR HD
VTR VD
CAMERA DATA
CAMERA CLK
TO PROCESS OR LENS DRIVE
IC6004 (E²PROM)
D. IN
D. OUT
CK
CS
R/B
TO LUMI/CHRO CIRCUIT
TO AUDIO CIRCUIT
CTL HEAD
IC2001-53 REC/PLAY 560mVp-p (1.0μsec./div.)
IC6001-23 STOP 0.6Vp-p (2.0μsec./div.)
IC2001-57 REC/PLAY 3.0Vp-p (0.5msec./div.)
IC2001-59 REC/PLAY 3.0Vp-p (5msec./div.)
IC2001-58 REC/PLAY 3.0Vp-p (0.5msec./div.)
IC2002-1, 3, 5 REC/PLAY 2.4Vp-p (1msec./div.)
IC2003-1, 3, 5 REC/PLAY 1.5Vp-p (20msec./div.)
CYLINDER DRIVE CLOCK
CYLINDER ON
CYLINDER FG
CYLINDER PG
CYLINDER TORQUE
CL6207
CL6208
CL6210
TRIWAVE
CAP SW
AMP
ACTIVE COIL SWITCHING LOGIC
SLOPE ADDITION
DRIVE TRANSISTOR CONTROL
TRANSISTOR SATURATION DETECTOR
FG AMP COMPARATOR
PG AMP COMPARATOR
DRIVE CLOCK
CYLINDER EC
CYL VM
TO POWER
IC2002 CYLINDER DRIVE TR.
R2008 0.33
R2007 0.47
DD CYLINDER MOTOR
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
FG
PG
CAP VM
C VM
IC2003 CAPSTAN DRIVE TR.
DD CAPSTAN MOTOR
DIRECTION LOGIC
DIRECTION DETECTOR
DIRECTION SWITCHING
MATRIX
LIMITER
<SERVO REG. 5V>
VCC
CAPSTAN R/S/F
CAPSTAN TORQUE
TORQUE LIMIT
Q6201
VRI
VRO
S REG 3V
QR6015
CAP SW
CL6209
CAPSTAN FG
FG AMP COMP.
HALL IC1
HALL IC2
HALL IC3
5V

Next Page:
LUMI/CHRO & HA Section

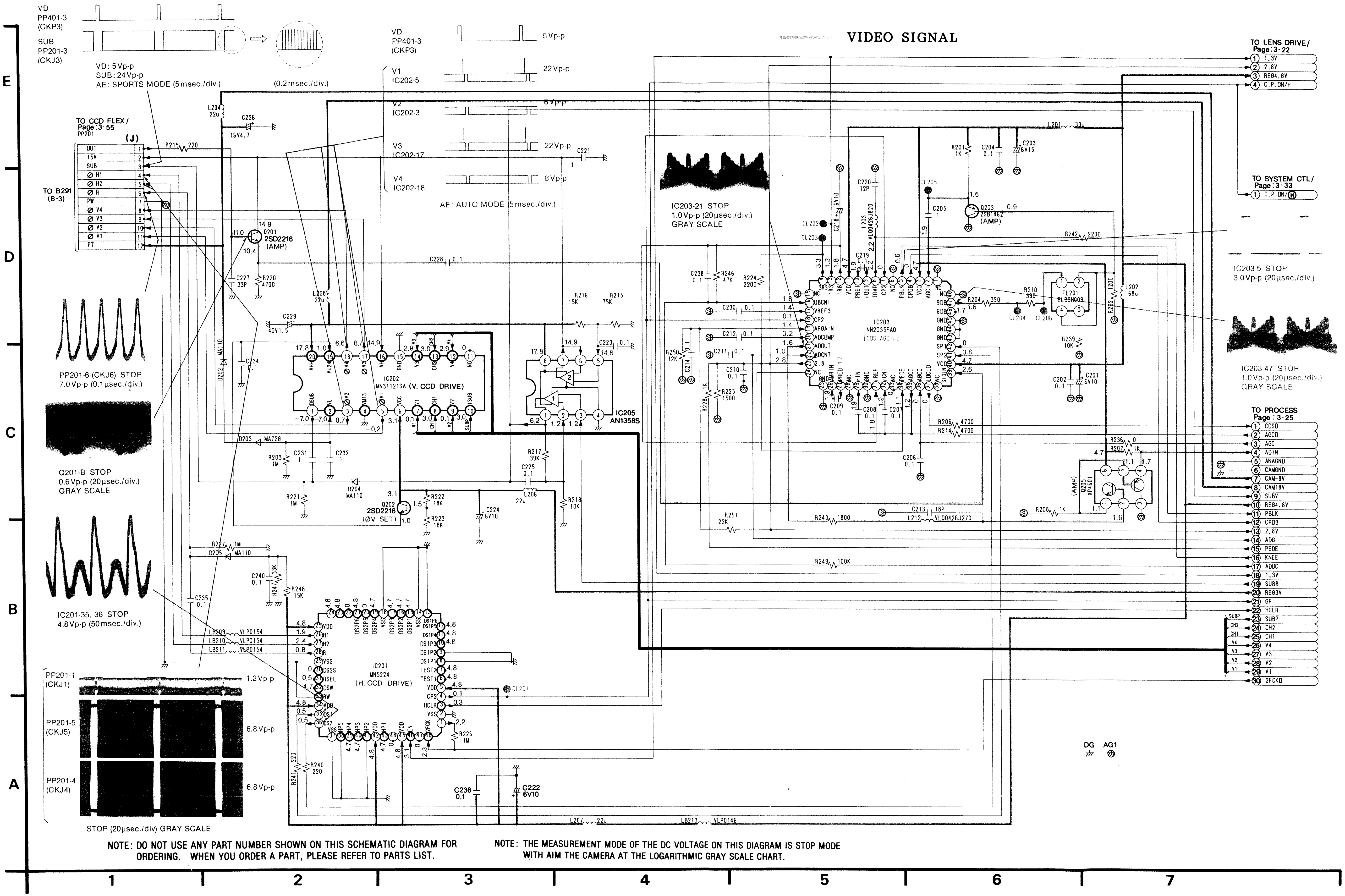
3-8. LUMINANCE/CHROMINANCE & HEAD AMP BLOCK DIAGRAM


MAIN SIGNAL PATH IN REC MODE
IC3001 (REC/PLAY VIDEO SIGNAL)
IC3001-31 REC 1.5Vp-p (20μsec./div.) COLOUR BAR
IC3001-51 PLAY 0.3Vp-p (5msec./div.) COLOUR BAR
IC3001-52 REC 1.5Vp-p (50μsec./div.) COLOUR BAR
IC3001-27 REC/PLAY 3.0Vp-p (20μsec./div.) COLOUR BAR
IC3001-8 REC/PLAY 0.7Vp-p (2μsec./div.)
IC3001-2 REC 0.7Vp-p (20μsec./div.) COLOUR BAR
IC3001-36 PLAY 0.8Vp-p (20μsec./div.) COLOUR BAR
IC3001-25 REC/PLAY 4.8Vp-p (20μsec./div.)
IC3001-53 PLAY 0.3Vp-p (5msec./div.) COLOUR BAR
IC5001-4 REC 3.0Vp-p (20μsec./div.) COLOUR BAR
IC5001-47 PLAY 0.3Vp-p (5msec./div.) COLOUR BAR
IC5001-1 PLAY 0.6Vp-p (5msec./div.) COLOUR BAR
IC5001-8 REC/PLAY 3.0Vp-p (10msec./div.)
FROM PROCESS
CAMERA IN
FROM SYSTEM CTL
ART V
TO AV JACK
VIDEO OUT
TO EVF
EVF VIDEO
Q3010/Q3001/Q3002
AMP
Q5502
X5501
FROM SYSTEM CTL
IC6001-54
IC6001-52
CLOCK
DATA
INTERFACE
PB/REC
SP/LP
YNR CTL
LPF
DEMODU
DOUBLE LIMITER
AGC
REC
PB
Y. LPF
NL EMPH
NL DE-EMPH
MAIN EMPH
DEV
FM MOD
CLAMP
NOISE CANCEL
MIX
Y. NR
VV. DO
SQUELCH
MIX AMP
6dB AMP
H. P. F
SYNC SEP
ACC AMP
B. P. F
B. M
L. P. F
COLOUR KILLER
C. NR
X' TAL VCO
REC APC
PB APC
VCO
1/2
4PHASE GENERATOR
SUB B. M
Q3003/Q3004/Q3012
AMP E. Q
Q3008/Q3009
IC5501
1H DELAY
CCD
H. S. S
TO SYSTEM CTL
Q5505/Q5506
FROM POWER
S. TAB 4. 8V
Q5003
IC5001 (REC/PLAY HEAD AMP)
FE CTL
FROM PROCESS IC302-18
REC. Y CTL
FROM PROCESS IC302-5
REC. C CTL
Y G. CTL
C G. CTL
HEAD AMP
FROM SYSTEM CTL
VIDEO HEAD CTL
V. D. REC
LOGIC
H. SW
HA. SW
CT. SW1
CT. SW2
CT. SW3
CT. SW4

AM

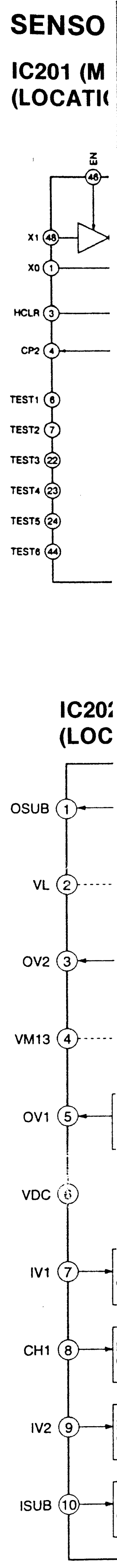

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
IC3001-51 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
Q3003/Q3004
/Q3012
AMP
E. Q
FROM
POWER
S. TAB 4. 8V
Q5003
FP5001
1
FP5001
2
FE
IC3001-52 REC
1.5Vp-p (50μsec./div.)
COLOUR BAR
DEV
FM
MOD
IC5001
(REC/PLAY HEAD AMP)
FROM
PROCESS
IC302-18
REC. Y CTL
FE
CTL
C. SW
Q3008
/Q3009
AMP
IC5501
1H
DELAY
PB
VV. DO
Y
G. CTL
MIX
C
G. CTL
Q5001
C. SW
SYNC
SEP
H. S. S
TO
SYSTEM CTL
AMP
Q5505/Q5506
FROM
PROCESS
IC302-5
REC. C CTL
H. SW
FP5001
4
FP5001
5
HEAD R1
FP5001
9
FP5001
10
HEAD R2
L. P. F
IC5501
CCD
IC5001-4 REC
3.0Vp-p (20μsec./div.)
COLOUR BAR
AGC
HEAD AMP
H. A. SW
EC
μsec./div.)
AR
IC3001-36 PLAY
0.8Vp-p (20μsec./div.)
COLOUR BAR
IC5001-47 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC5001-1 PLAY
0.6Vp-p (5msec./div.)
COLOUR BAR
FP5001
6
FP5001
7
HEAD L1
H. SW
FP5001
11
FP5001
12
HEAD L2
IC3001-25 REC/PLAY
4.8Vp-p (20μsec./div.)
C. SW
Q5002
FROM
SYSTEM
CTL
VIDEO HEAD CTL
V. D. REC
LOGIC
H. SW
HA. SW
CT. SW1
CT. SW2
CT. SW3
CT. SW4
C. SW
IC3001-53 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC5001-8 REC/PLAY
3.0Vp-p (10msec./div.)

3-9. SENSOR SCHEMATIC DIAGRAM

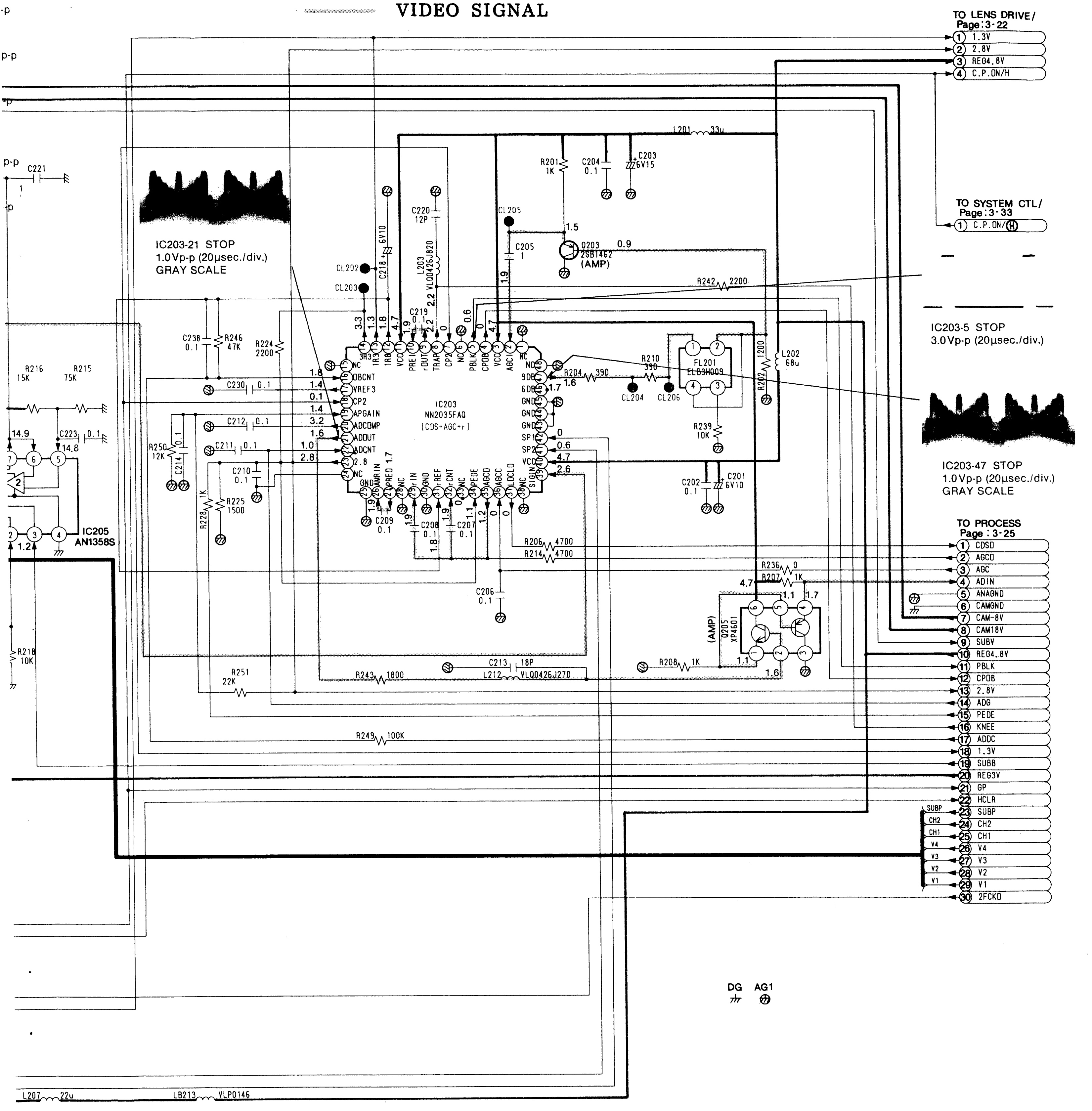

VD PP401-3 (CKP3)
SUB PP201-3 (CKJ3)
VD: 5Vp-p
SUB: 24Vp-p
AE: SPORTS MODE (5msec./div.)
(0.2msec./div.)
VD PP401-3 (CKP3) 5Vp-p
V1 IC202-5 22Vp-p
V2 IC202-3 8Vp-p
V3 IC202-17 22Vp-p
V4 IC202-18 8Vp-p
AE: AUTO MODE (5msec./div.)
VIDEO SIGNAL
TO LENS DRIVE/ Page:3-22
1.3V
2.8V
REG4.8V
C.P.DN/H
TO SYSTEM CTL/ Page:3-33
C.P.DN/H
TO CCD FLEX/ Page:3-55 PP201
(J)
OUT
15V
SUB
Ø H1
Ø H2
Ø R
PW
Ø V4
Ø V3
Ø V2
Ø V1
PT
TO B291 (B-3)
Q201 2SD2216 (AMP)
IC202 MN31121SA (V. CCD DRIVE)
IC205 AN1358S
Q202 2SD2216 (ØV SET)
IC201 MN5224 (H. CCD DRIVE)
IC203 NN2035FAQ (CDS+AGC+γ)
Q203 2SB1462 (AMP)
Q205 XP4601 (AMP)
FL201 ELB3H009
IC203-21 STOP 1.0Vp-p (20μsec./div.) GRAY SCALE
IC203-5 STOP 3.0Vp-p (20μsec./div.)
IC203-47 STOP 1.0Vp-p (20μsec./div.) GRAY SCALE
PP201-6 (CKJ6) STOP 7.0Vp-p (0.1μsec./div.)
Q201-B STOP 0.6Vp-p (20μsec./div.) GRAY SCALE
IC201-35, 36 STOP 4.8Vp-p (50msec./div.)
PP201-1 (CKJ1) 1.2Vp-p
PP201-5 (CKJ5) 6.8Vp-p
PP201-4 (CKJ4) 6.8Vp-p
STOP (20μsec./div) GRAY SCALE
TO PROCESS Page:3-25
CDSO
AGCO
AGC
ADIN
ANAGND
CAMGND
CAM-8V
CAM18V
SUBV
REG4.8V
PBLK
CPOB
2.8V
ADG
PEDE
KNEE
ADDC
1.3V
SUBB
REG3V
GP
HCLR
SUBP
CH2
CH1
V4
V3
V2
V1
2FCKO
DG AG1
E
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.


SENSO
IC201 (M
(LOCATI
X1
X0
HCLR
CP2
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
IC20
(LOC
OSUB
VL
OV2
VM13
OV1
VDC
IV1
CH1
IV2
ISUB

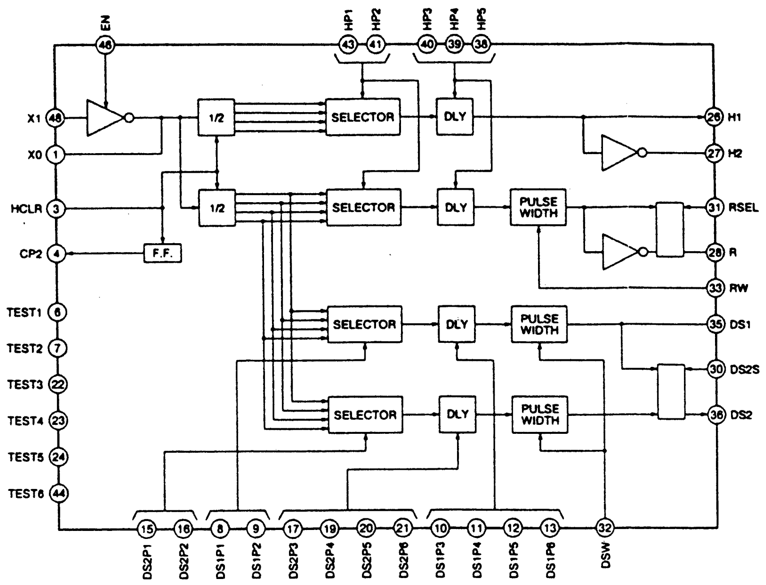
VIDEO SIGNAL


TO LENS DRIVE/
Page : 3-22
1.3V
2.8V
REG4.8V
C.P.ON/H
TO SYSTEM CTL/
Page : 3-33
C.P.ON/H
IC203-21 STOP
1.0Vp-p (20μsec./div.)
GRAY SCALE
IC203-5 STOP
3.0Vp-p (20μsec./div.)
IC203-47 STOP
1.0Vp-p (20μsec./div.)
GRAY SCALE
IC203
MN2035FAQ
(CDS+AGC+γ)
Q203
2SB1462
(AMP)
Q205
XP4601
(AMP)
FL201
ELB3H009
IC205
AN1358S
L201 33μ
L202 68μ
L203 VLQ0426J820
L207 22μ
LB213 VLP0146
L212 VLQ0426J270
R201 1K
R202 1200
R204 390
R206 4700
R207 1K
R208 1K
R210 390
R214 4700
R216 15K
R215 75K
R218 10K
R224 2200
R225 1500
R228 1K
R236 0
R239 10K
R242 2200
R243 1800
R246 47K
R249 100K
R250 12K
R251 22K
C201 6V10
C202 0.1
C203 6V15
C204 0.1
C205 1
C206 0.1
C207 0.1
C208 0.1
C209 0.1
C210 0.1
C211 0.1
C212 0.1
C213 18P
C214 0.1
C218 6V10
C219 0.1
C220 12P
C221
C223 0.1
C230 0.1
C238 0.1
CL202
CL203
CL204
CL205
CL206
TO PROCESS
Page : 3-25
CDSO
AGCO
AGC
ADIN
ANAGND
CAMGND
CAM-8V
CAM18V
SUBV
REG4.8V
PBLK
CPOB
2.8V
ADG
PEDE
KNEE
ADCC
1.3V
SUBB
REG3V
GP
HCLR
SUBP
CH2
CH1
V4
V3
V2
V1
2FCKO
DG
AG1
4
5
6
7

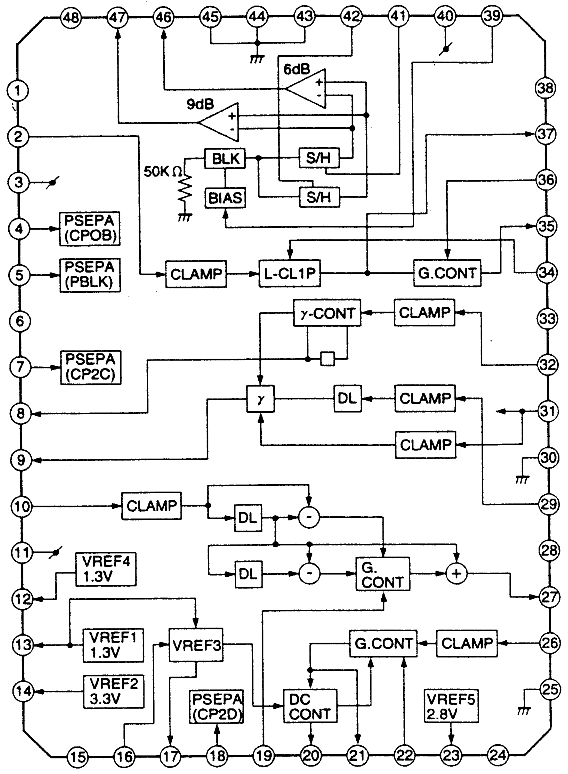
JREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

SENSOR IC BLOCK

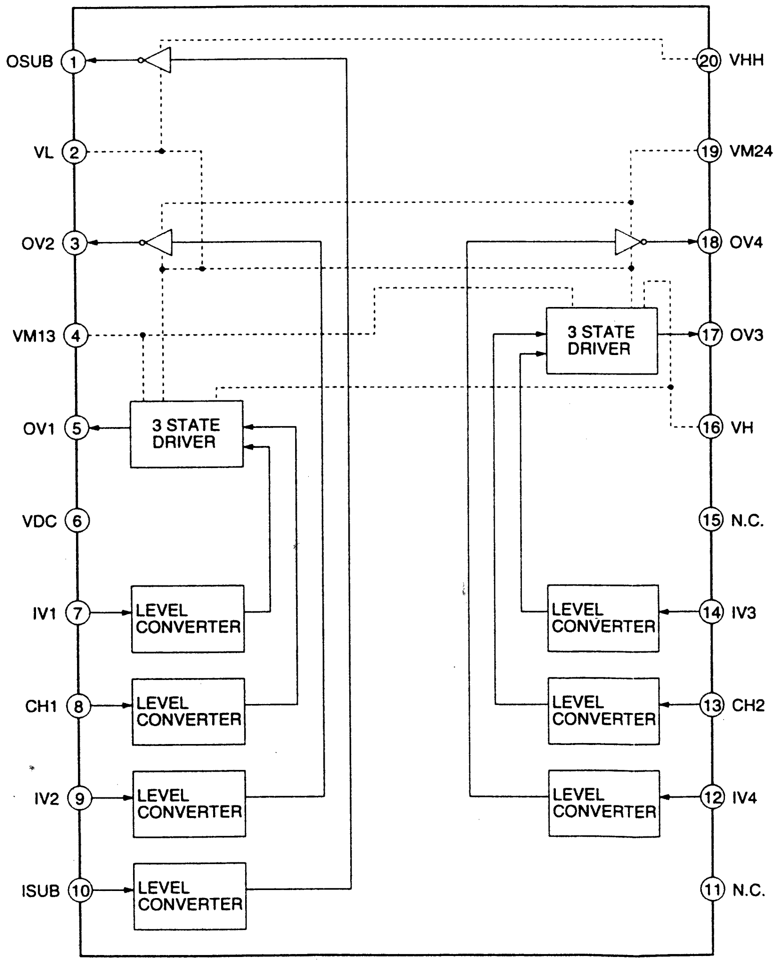
IC201 (MN5224)
(LOCATION: B-3)


EN
HP1
HP2
HP3
HP4
HP5
X1
X0
HCLR
CP2
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
1/2
F.F.
SELECTOR
DLY
PULSE WIDTH
H1
H2
RSEL
R
RW
DS1
DS2S
DS2
DS2P1
DS2P2
DS1P1
DS1P2
DS2P3
DS2P4
DS2P5
DS2P6
DS1P3
DS1P4
DS1P5
DS1P6
DSW

IC203 (MN2035FAQ)
(LOCATION: D-5)

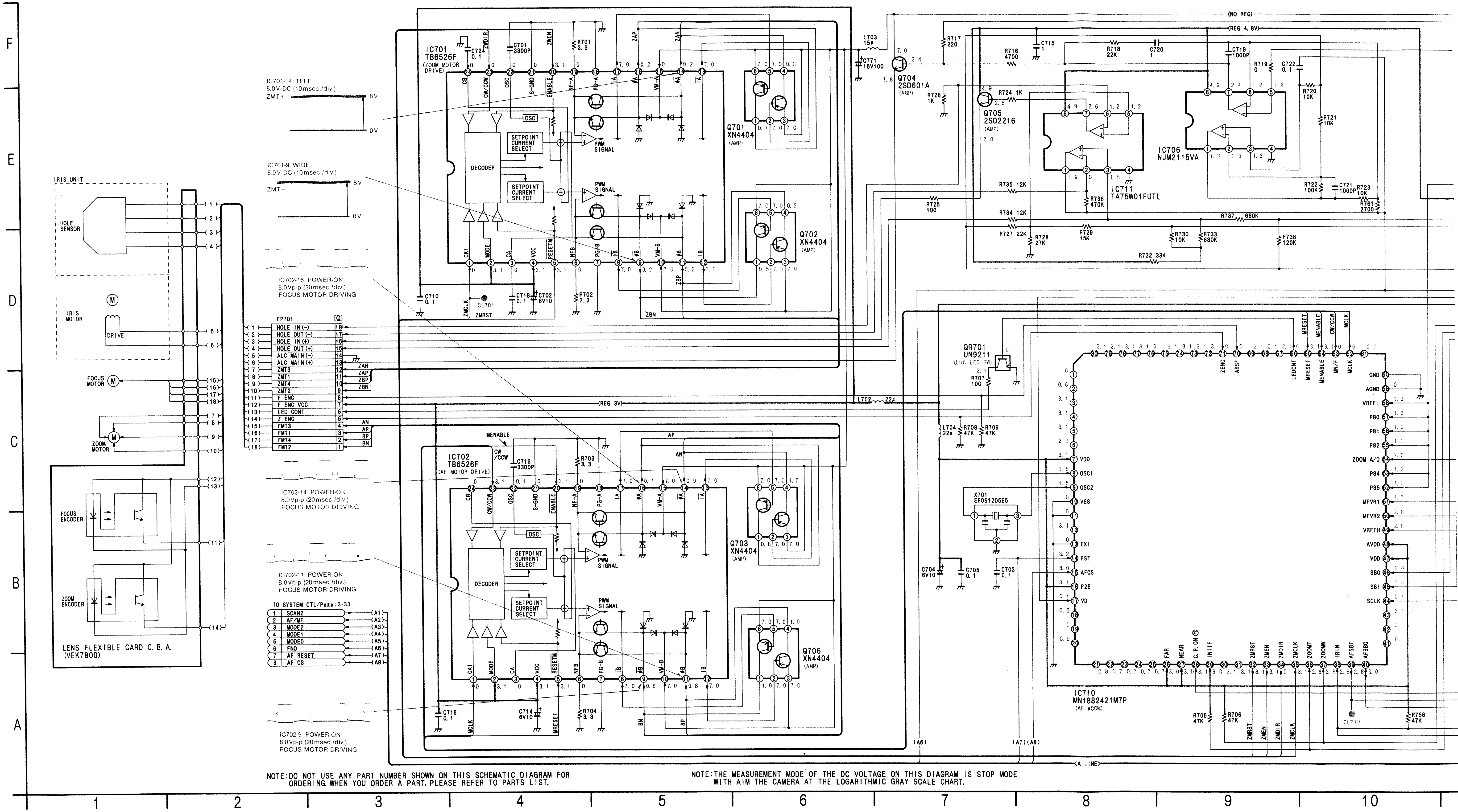

6dB
9dB
50KΩ
BLK
BIAS
S/H
PSEPA (CPOB)
PSEPA (PBLK)
PSEPA (CP2C)
PSEPA (CP2D)
CLAMP
L-CL1P
G.CONT
γ-CONT
γ
DL
G. CONT
VREF4 1.3V
VREF1 1.3V
VREF2 3.3V
VREF3
VREF5 2.8V
DC CONT

IC202 (MN31121SA)
(LOCATION: C-3)


OSUB
VL
OV2
VM13
OV1
VDC
IV1
CH1
IV2
ISUB
VHH
VM24
OV4
OV3
VH
N.C.
IV3
CH2
IV4
N.C.
3 STATE DRIVER
LEVEL CONVERTER

Next Page:
LENS DRIVE Section

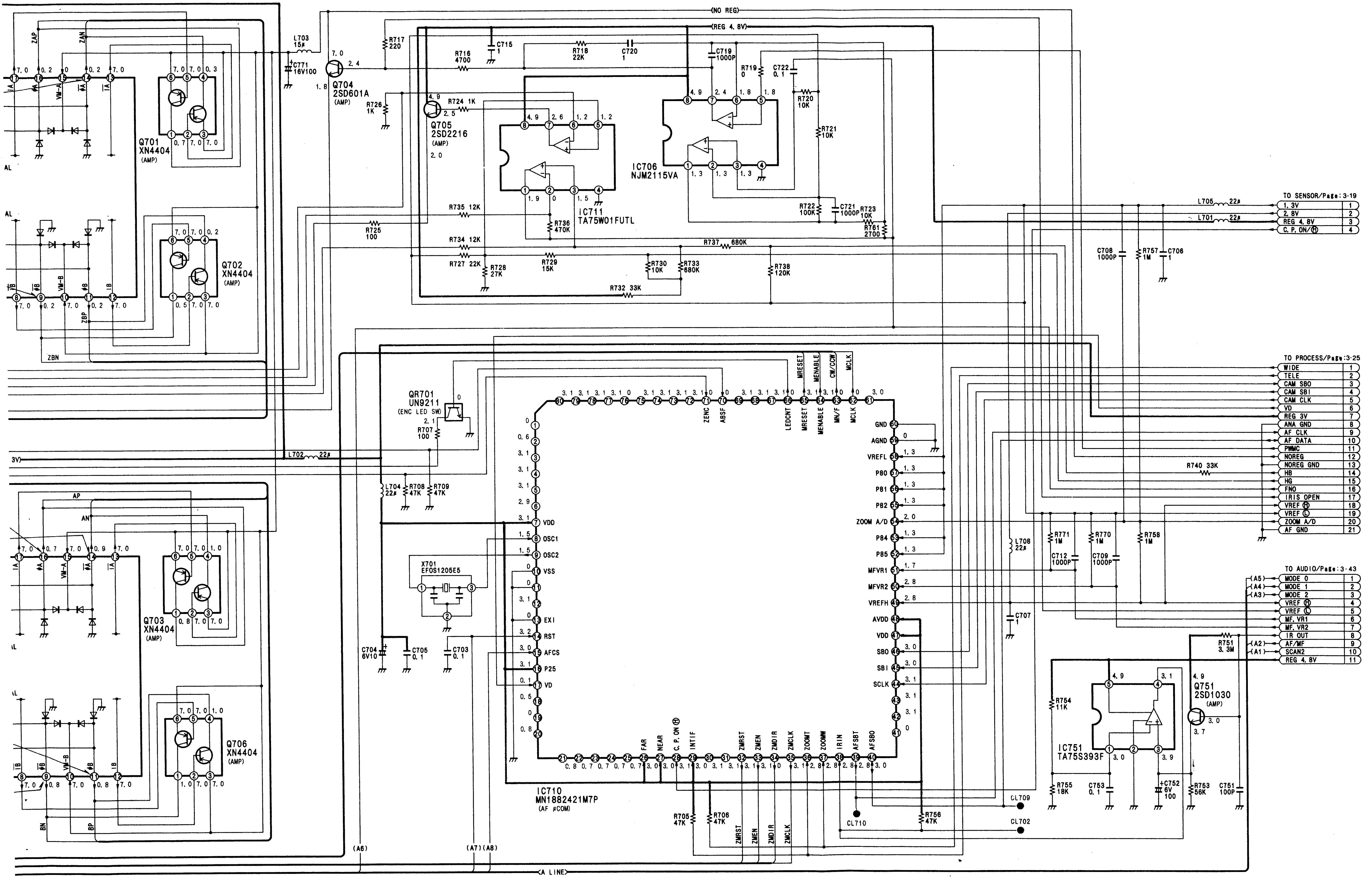
3-10. LENS DRIVE SCHEMATIC DIAGRAM



F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
IRIS UNIT
HOLE SENSOR
IRIS MOTOR
DRIVE
FOCUS MOTOR
ZOOM MOTOR
FOCUS ENCODER
ZOOM ENCODER
LENS FLEXIBLE CARD C. B. A. (VEK7800)
IC701-14 TELE
8.0V DC (10msec./div.)
ZMT+
8V
0V
IC701-9 WIDE
8.0V DC (10msec./div.)
ZMT−
IC702-16 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-14 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-11 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
IC702-9 POWER-ON
8.0Vp-p (20msec./div.)
FOCUS MOTOR DRIVING
FP701
HOLE IN(−)
HOLE OUT(−)
HOLE IN(+)
HOLE OUT(+)
ALC MAIN(−)
ALC MAIN(+)
ZMT3
ZMT1
ZMT4
ZMT2
F ENC
F ENC VCC
LED CONT
Z ENC
FMT3
FMT1
FMT4
FMT2
ZAN
ZAP
ZBP
ZBN
AN
AP
BP
BN
TO SYSTEM CTL/Page:3-33
SCAN2
AF/MF
MODE2
MODE1
MODE0
FNO
AF RESET
AF CS
(A1)
(A2)
(A3)
(A4)
(A5)
(A6)
(A7)
(A8)
IC701 TB6526F (ZOOM MOTOR DRIVE)
IC702 TB6526F (AF MOTOR DRIVE)
DECODER
OSC
SETPOINT CURRENT SELECT
PWM SIGNAL
CB
CW/CCW
S-GND
ENABLE
NF-A
PG-A
VM-A
ΦA
IA
CK1
MODE
CA
VCC
RESETM
NFB
PG-B
IB
ΦB
VM-B
ZMCLK
ZMRST
CL701
MENABLE
MCLK
MRESET
C724 0.1
C701 3300P
R701 3.3
C710 0.1
C718 0.1
C702 6V10
R702 3.3
C713 3300P
R703 3.3
C716 0.1
C714 6V10
R704 3.3
Q701 XN4404 (AMP)
Q702 XN4404 (AMP)
Q703 XN4404 (AMP)
Q706 XN4404 (AMP)
L703 15μ
C771 16V100
Q704 2SD601A (AMP)
Q705 2SD2216 (AMP)
R717 220
R716 4700
C715 1
R718 22K
C720 1
C719 1000P
R719 0
C722 0.1
R720 10K
R721 10K
R726 1K
R724 1K
IC711 TA75W01FUTL
IC706 NJM2115VA
R735 12K
R725 100
R736 470K
R734 12K
R727 22K
R728 27K
R729 15K
R730 10K
R733 680K
R737 680K
R738 120K
R732 33K
R722 100K
C721 1000P
R723 10K
R761 2700
(NO REG)
(REG 4.8V)
(REG 3V)
L702 22μ
QR701 UN9211 (ENC LED SW)
R707 100
L704 22μ
R708 47K
R709 47K
X701 EFOS1205E5
C704 6V10
C705 0.1
C703 0.1
IC710 MN1882421M7P (AF μCOM)
VDD
OSC1
OSC2
VSS
EXI
RST
AFCS
P25
VD
GND
AGND
VREFL
P80
P81
P82
ZOOM A/D
P84
P85
MFVR1
MFVR2
VREFH
AVDD
SBO
SBI
SCLK
ZENC
ABSF
LEDCNT
MRESET
MENABLE
MN/F
FAR
NEAR
C.P. ON
INTIF
ZMRST
ZMEN
ZMDIR
ZMCLK
ZOOMT
ZOOMW
IRIN
AFSBT
AFSBO
CW/CCW
ZMDIR
ZWEN
R705 47K
R706 47K
CL710
R756 47K
(A6)
(A7)(A8)
(A LINE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.



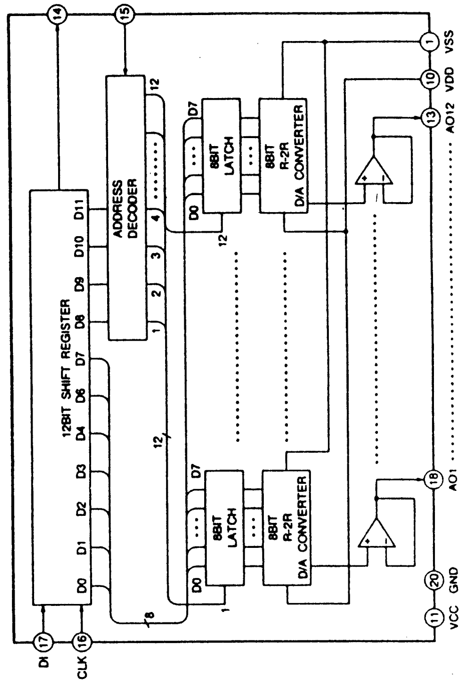
(NO REG)
(REG 4.8V)
L703 15μ
C771 16V100
Q704 2SD601A (AMP)
Q705 2SD2216 (AMP)
Q701 XN4404 (AMP)
Q702 XN4404 (AMP)
Q703 XN4404 (AMP)
Q706 XN4404 (AMP)
IC711 TA75W01FUTL
IC706 NJM2115VA
IC710 MN1882421M7P (AF μCOM)
IC751 TA75S393F
Q751 2SD1030 (AMP)
QR701 UN9211 (ENC LED SW)
X701 EFOS1205E5
R717 220
R716 4700
C715 1
R718 22K
C720 1
C719 1000P
R719 0
C722 0.1
R720 10K
R721 10K
R724 1K
R726 1K
R725 100
R735 12K
R734 12K
R727 22K
R728 27K
R729 15K
R736 470K
R737 680K
R730 10K
R733 680K
R738 120K
R732 33K
R722 100K
C721 1000P
R723 10K
R761 2700
L705 22μ
L701 22μ
C708 1000P
R757 1M
C706 1
R707 100
L704 22μ
R708 47K
R709 47K
L702 22μ
C704 6V10
C705 0.1
C703 0.1
R740 33K
L708 22μ
R771 1M
R770 1M
R758 1M
C712 1000P
C709 1000P
C707 1
R751 3.3M
R754 11K
R755 18K
C753 0.1
C752 6V 100
R753 56K
C751 100P
R705 47K
R706 47K
R756 47K
CL709
CL710
CL702
TO SENSOR/Page:3-19
1 3.3V
2 2.8V
3 REG 4.8V
4 C.P.ON/Ⓗ
TO PROCESS/Page:3-25
1 WIDE
2 TELE
3 CAM SBO
4 CAM SBI
5 CAM CLK
6 VD
7 REG 3V
8 ANA GND
9 AF CLK
10 AF DATA
11 PWMC
12 NOREG
13 NOREG GND
14 HB
15 HG
16 FNO
17 IRIS OPEN
18 VREF Ⓗ
19 VREF Ⓛ
20 ZOOM A/D
21 AF GND
TO AUDIO/Page:3-43
(A5) 1 MODE 0
(A4) 2 MODE 1
(A3) 3 MODE 2
4 VREF Ⓗ
5 VREF Ⓛ
6 MF.VR1
7 MF.VR2
8 IR OUT
(A2) 9 AF/MF
(A1) 10 SCAN2
11 REG 4.8V
VDD
OSC1
OSC2
VSS
EXI
RST
AFCS
P25
VD
GND
AGND
VREFL
P80
P81
P82
ZOOM A/D
P84
P85
MFVR1
MFVR2
VREFH
AVDD
VDD
SBO
SBI
SCLK
ZENC
ABSF
LEDCNT
MRESET
MENABLE
MN/F
MCLK
CW/CCW
FAR
NEAR
C.P.ON Ⓗ
INTIF
ZMRST
ZMEN
ZMDIR
ZMCLK
ZOOMT
ZOOMW
IRIN
AFSBT
AFSBO
ZAP
ZAN
ZBP
ZBN
AP
AN
BP
BN
(A6)
(A7)(A8)
(A LINE)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

5 6 7 8 9 10 11 12

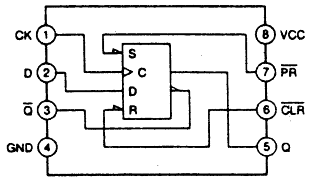
PROCESS IC BLOCK

IC302 (M62366GP or MB88346LPFV)
(LOCATION: B-5)



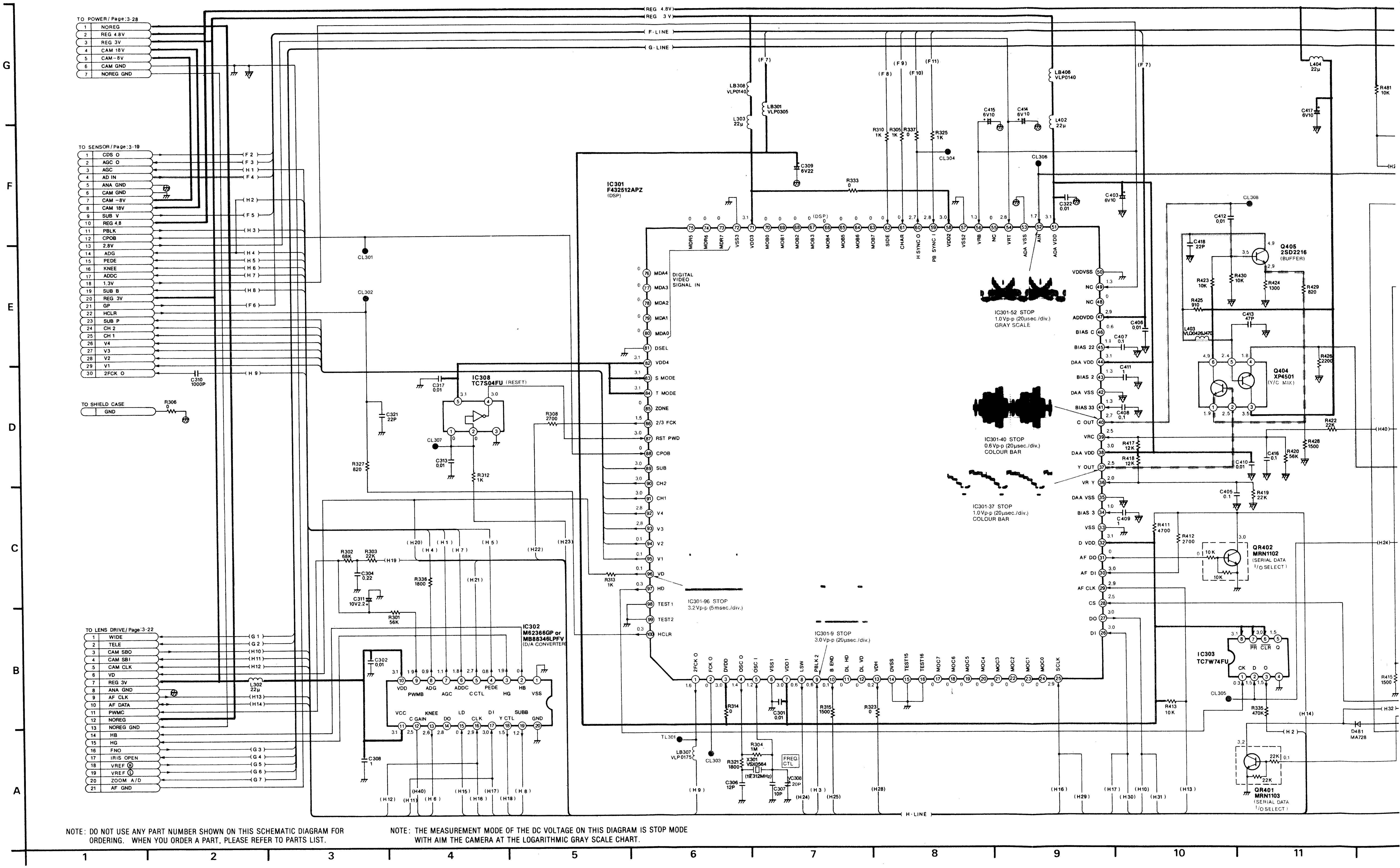
DO
LD
VSS
VDD
AO12
AO1
GND
VCC
DI
CLK
12BIT SHIFT REGISTER
ADDRESS DECODER
8BIT LATCH
8BIT R-2R D/A CONVERTER
D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1 D0

IC303 (TC7W74FU)
(LOCATION: B-10)



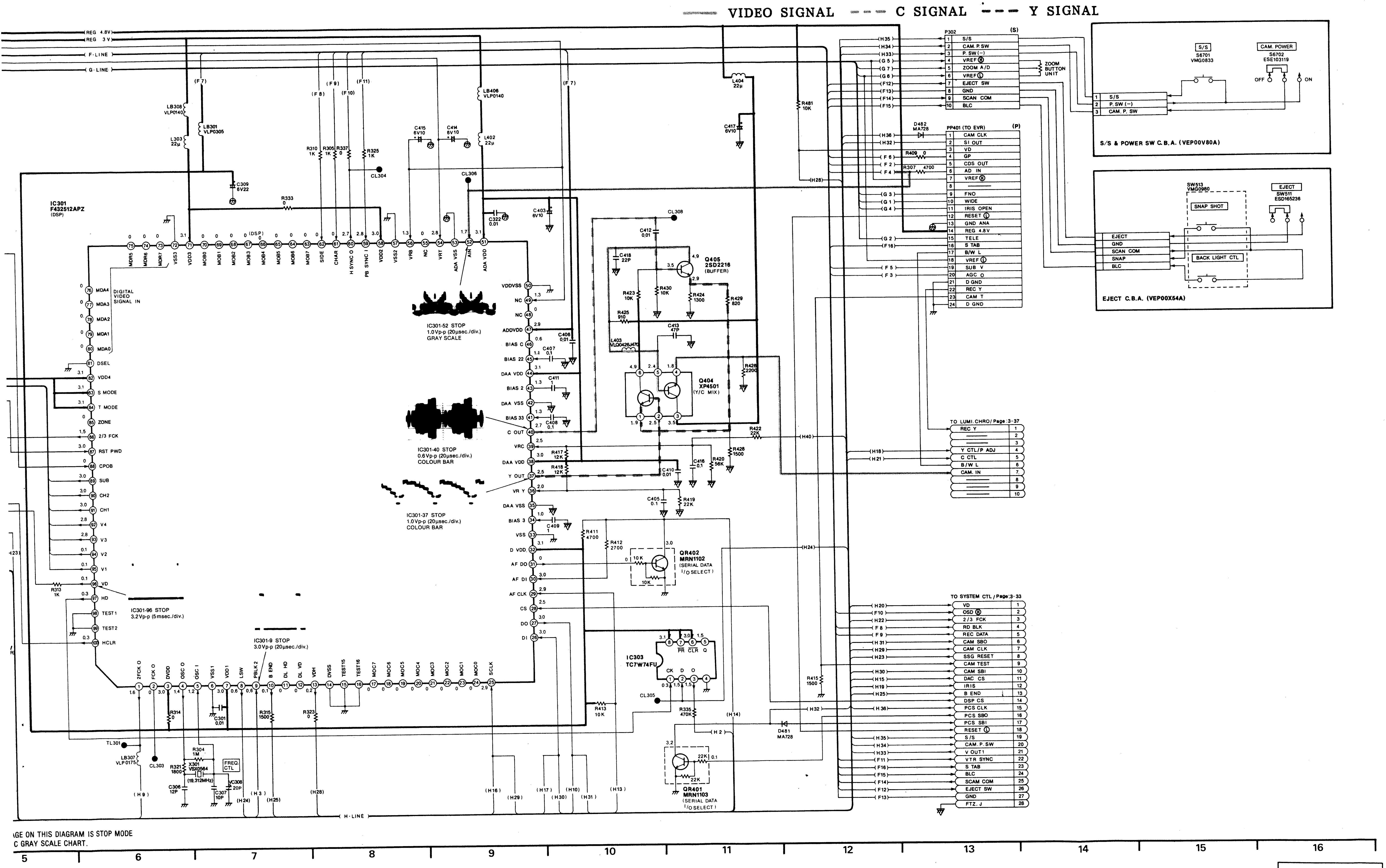
CK
D
Q̄
GND
VCC
PR
CLR
Q
S
C
D
R

3-11. PROCESS SCHEMATIC DIAGRAM


TO POWER/Page:3-28
1 NOREG
2 REG 4.8V
3 REG 3V
4 CAM 18V
5 CAM -8V
6 CAM GND
7 NOREG GND
TO SENSOR/Page:3-19
1 CDS O
2 AGC O
3 AGC
4 AD IN
5 ANA GND
6 CAM GND
7 CAM -8V
8 CAM 18V
9 SUB V
10 REG 4.8
11 PBLK
12 CPOB
13 2.8V
14 ADG
15 PEDE
16 KNEE
17 ADDC
18 1.3V
19 SUB B
20 REG 3V
21 GP
22 HCLR
23 SUB P
24 CH 2
25 CH 1
26 V4
27 V3
28 V2
29 V1
30 2FCK O
TO SHIELD CASE
GND
TO LENS DRIVE/Page:3-22
1 WIDE
2 TELE
3 CAM SBO
4 CAM SBI
5 CAM CLK
6 VD
7 REG 3V
8 ANA GND
9 AF CLK
10 AF DATA
11 PWMC
12 NOREG
13 NOREG GND
14 HB
15 HG
16 FNO
17 IRIS OPEN
18 VREF Ⓗ
19 VREF Ⓛ
20 ZOOM A/D
21 AF GND
REG 4.8V
REG 3V
F-LINE
G-LINE
H-LINE
IC301
F432512APZ
(DSP)
DIGITAL VIDEO SIGNAL IN
IC308
TC7S04FU (RESET)
IC302
M62366GP or
MB88346LPFV
(D/A CONVERTER)
IC303
TC7W74FU
Q405
2SD2216
(BUFFER)
Q404
XP4501
(Y/C MIX)
QR402
MRN1102
(SERIAL DATA I/O SELECT)
QR401
MRN1103
(SERIAL DATA I/O SELECT)
X301
VSX0564
(17.312MHz)
FREQ. CTL
D481
MA728
IC301-52 STOP
1.0Vp-p (20μsec./div.)
GRAY SCALE
IC301-40 STOP
0.6Vp-p (20μsec./div.)
COLOUR BAR
IC301-37 STOP
1.0Vp-p (20μsec./div.)
COLOUR BAR
IC301-96 STOP
3.2Vp-p (5msec./div.)
IC301-9 STOP
3.0Vp-p (20μsec./div.)
CL301
CL302
CL303
CL304
CL305
CL306
CL307
CL308
TL301
LB301 VLP0305
LB306 VLP0140
LB307 VLP0175
LB308 VLP0140
L302 22μ
L303 22μ
L402 22μ
L403 VLQ0426J470
L404 22μ
C302 0.01
C304 0.22
C306 12P
C307 10P
C308 1
C309 6V22
C310 1000P
C311 10V2.2
C313 0.01
C317 0.01
C321 22P
C322 0.01
C403 6V10
C405 0.1
C406 0.01
C407 0.1
C408 0.1
C409 1
C410 0.01
C411 1
C412 0.01
C413 47P
C414 6V10
C415 6V10
C416 0.1
C417 6V10
C418 22P
VC308 20P
R301 56K
R302 68K
R303 22K
R304 1M
R305 1K
R306 0
R308 2700
R310 1K
R312 1K
R313 1K
R314 0
R315 1500
R321 1800
R323 0
R325 1K
R327 820
R333 0
R335 470K
R336 1800
R337
R411 4700
R412 2700
R413 10K
R415 1500
R417 12K
R418 12K
R419 22K
R420 56K
R422 22K
R423 10K
R424 1300
R425 910
R426 2200
R428 1500
R429 820
R430 10K
R481 10K
MDR5 MDR6 MDR7 VSS3 VDD3 MOB0 MOB1 MOB2 MOB3 MOB4 MOB5 MOB6 MOB7 SIDE CHAR H SYNC O PB SYNC I VDD2 VSS2 VRB NC VRT ADA VSS AIN ADA VDD
MDA4 MDA3 MDA2 MDA1 MDA0 DSEL VDD4 S MODE T MODE ZONE 2/3 FCK RST PWD CPOB SUB CH2 CH1 V4 V3 V2 V1 VD HD TEST1 TEST2 HCLR
2FCK O FCK O DVDD OSC O OSC I VSS1 VDD1 LSW PBLK 2 B END DL HD DL VD VDH DVSS TEST15 TEST16 MOC7 MOC6 MOC5 MOC4 MOC3 MOC2 MOC1 MOC0 SCLK
VDDVSS NC NC ADDVDD BIAS C BIAS 22 DAA VDD BIAS 2 DAA VSS BIAS 33 C OUT VRC DAA VDD Y OUT VR Y DAA VSS BIAS 3 VSS D VDD AF DO AF DI AF CLK CS DO DI
VDD ADG PWMB AGC ADDC CCTL PEDE HG HB VSS
VCC KNEE C GAIN LD DO CLK DI Y CTL SUBB GND
PR CLR Q CK D O
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

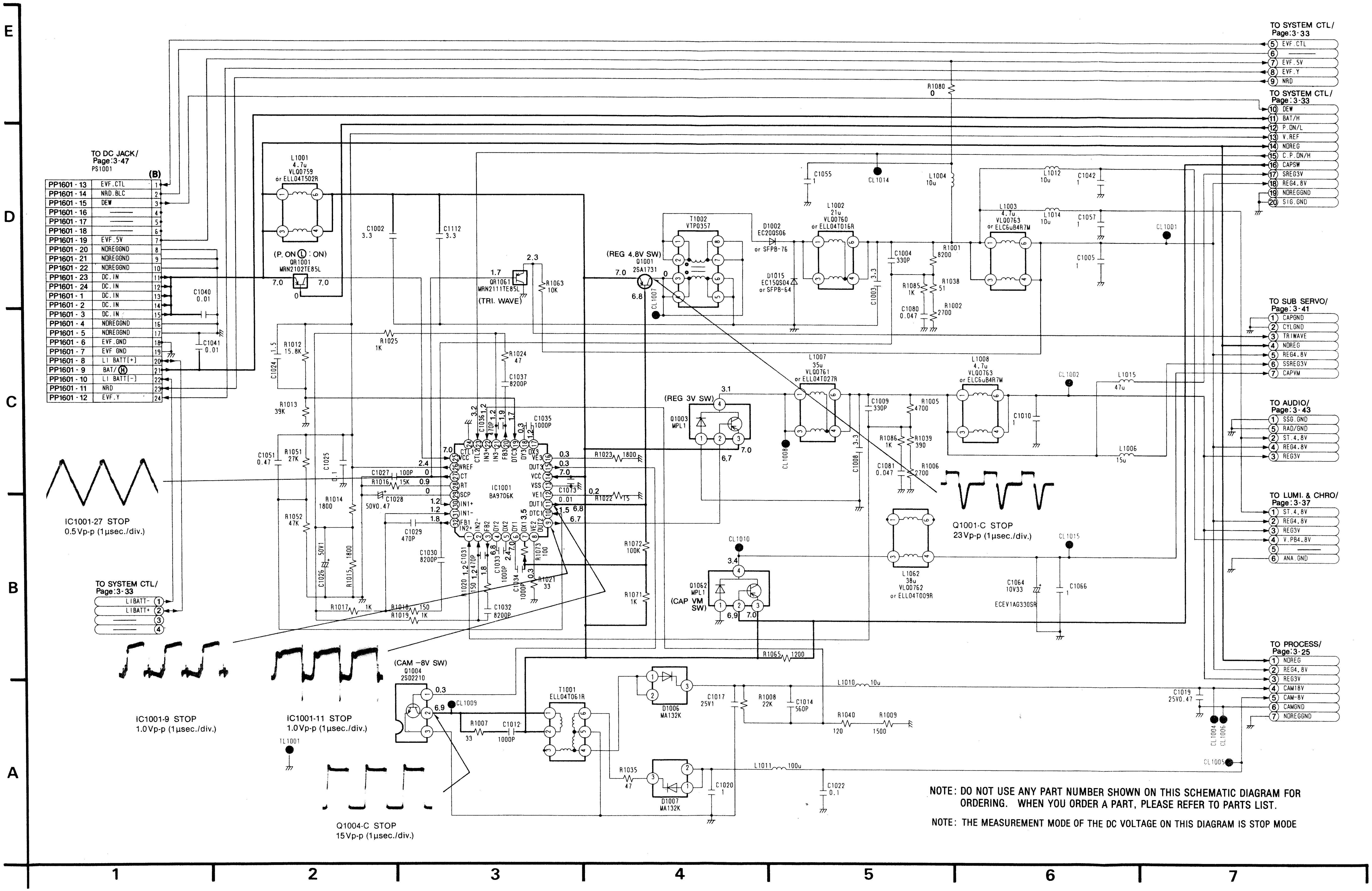
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.


VIDEO SIGNAL
C SIGNAL
Y SIGNAL
REG 4.8V
REG 3V
F-LINE
G-LINE
H-LINE
IC301
F432512APZ
(DSP)
DIGITAL VIDEO SIGNAL IN
LB308 VLP0140
LB301 VLP0305
L303 22μ
C309 6V22
R333 0
R310 1K
R305 1K
R337 0
R325 1K
CL304
C415 6V10
C414 6V10
LB406 VLP0140
L402 22μ
CL306
C322 0.01
C403 6V10
MDR5
MDR6
MDR7
VSS3
VDD3
MOB0
MOB1
MOB2
MOB3
MOB4
MOB5
MOB6
MOB7
SIDE
CHAR
H SYNC O
PB SYNC I
VDD2
VSS2
VRB
NC
VRT
ADA VSS
AIN
ADA VDD
MDA4
MDA3
MDA2
MDA1
MDA0
DSEL
VDD4
S MODE
T MODE
ZONE
2/3 FCK
RST PWD
CPOB
SUB
CH2
CH1
V4
V3
V2
V1
VD
HD
TEST1
TEST2
HCLR
R313 1K
VDDVSS
NC
ADDVDD
BIAS C
BIAS 22
DAA VDD
BIAS 2
DAA VSS
BIAS 33
C OUT
VRC
DAA VDD
Y OUT
VR Y
DAA VSS
BIAS 3
VSS
D VDD
AF DO
AF DI
AF CLK
CS
DO
DI
C406 0.01
C407 0.1
C411 1
C408 0.1
R417 12K
R418 12K
C409 1
IC301-52 STOP
1.0Vp-p (20μsec./div.)
GRAY SCALE
IC301-40 STOP
0.6Vp-p (20μsec./div.)
COLOUR BAR
IC301-37 STOP
1.0Vp-p (20μsec./div.)
COLOUR BAR
IC301-96 STOP
3.2Vp-p (5msec./div.)
IC301-9 STOP
3.0Vp-p (20μsec./div.)
2FCK O
FCK O
DVDD
OSC O
OSC I
VSS1
VDD1
LSW
PBLK2
B END
DL HD
DL VD
VDH
DVSS
TEST15
TEST16
MOC7
MOC6
MOC5
MOC4
MOC3
MOC2
MOC1
MOC0
SCLK
R314 0
C301 0.01
R315 1500
R323 0
TL301
LB307 VLP0175
CL303
R321 1800
R304 1M
X301 VSX0564
(19.312MHz)
FREQ. CTL
VC308 20P
C306 12P
C307 10P
CL308
C412 0.01
C418 22P
Q405
2SD2216
(BUFFER)
R423 10K
R430 10K
R424 1300
R429 820
R425 910
C413 47P
L403 VLQ0426J470
Q404
XP4501
(Y/C MIX)
R426 2200
R422 22K
C410 0.01
C416 0.1
R420 56K
R428 1500
C405 0.1
R419 22K
R411 4700
R412 2700
QR402
MRN1102
(SERIAL DATA I/O SELECT)
IC303
TC7W74FU
PR CLR Q
CK D Q
CL305
R413 10K
R335 470K
QR401
MRN1103
(SERIAL DATA I/O SELECT)
D481 MA728
R415 1500
L404 22μ
R481 10K
C417 6V10
D482 MA728
R409 0
R307 4700
P302
(S)
S/S
CAM. P. SW
P. SW (−)
VREF (H)
ZOOM A/D
VREF (L)
EJECT SW
GND
SCAN COM
BLC
ZOOM BUTTON UNIT
PP401 (TO EVR)
(P)
CAM CLK
SI OUT
VD
GP
CDS OUT
AD IN
VREF (H)
FNO
WIDE
IRIS OPEN
RESET (L)
GND ANA
REG 4.8V
TELE
S TAB
B/W L
VREF (L)
SUB V
AGC O
D GND
REC Y
CAM T
D GND
S/S
S6701
VMG0833
CAM. POWER
S6702
ESE103119
OFF
ON
S/S
P. SW (−)
CAM. P. SW
S/S & POWER SW C.B.A. (VEP00V80A)
SW513
VMG0960
SNAP SHOT
EJECT
SW511
ESD165236
BACK LIGHT CTL
EJECT
GND
SCAN COM
SNAP
BLC
EJECT C.B.A. (VEP00X54A)
TO LUMI. CHRO/ Page: 3-37
REC Y
Y CTL/P ADJ
C CTL
B/W L
CAM. IN
TO SYSTEM CTL / Page: 3-33
VD
OSD (H)
2/3 FCK
RD BLK
REC DATA
CAM SBO
CAM CLK
SSG RESET
CAM TEST
CAM SBI
DAC CS
IRIS
B END
DSP CS
PCS CLK
PCS SBO
PCS SBI
RESET (L)
S/S
CAM. P. SW
V OUT1
VTR SYNC
S TAB
BLC
SCAM COM
EJECT SW
GND
FTZ. J
5
6
7
8
9
10
11
12
13
14
15
16

ɩGE ON THIS DIAGRAM IS STOP MODE
C GRAY SCALE CHART.

Next Page:
POWER Section

3-12. POWER SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
TO DC JACK/
Page:3-47
PS1001
(B)
PP1601-13 EVF.CTL 1
PP1601-14 NRD.BLC 2
PP1601-15 DEW 3
PP1601-16 4
PP1601-17 5
PP1601-18 6
PP1601-19 EVF.5V 7
PP1601-20 NDREGGND 8
PP1601-21 NDREGGND 9
PP1601-22 NDREGGND 10
PP1601-23 DC.IN 11
PP1601-24 DC.IN 12
PP1601-1 DC.IN 13
PP1601-2 DC.IN 14
PP1601-3 DC.IN 15
PP1601-4 NDREGGND 16
PP1601-5 NDREGGND 17
PP1601-6 EVF.GND 18
PP1601-7 EVF GND 19
PP1601-8 LI BATT(+) 20
PP1601-9 BAT/H 21
PP1601-10 LI BATT(-) 22
PP1601-11 NRD 23
PP1601-12 EVF.Y 24
TO SYSTEM CTL/
Page:3-33
5 EVF.CTL
6
7 EVF.5V
8 EVF.Y
9 NRD
TO SYSTEM CTL/
Page:3-33
10 DEW
11 BAT/H
12 P.ON/L
13 V.REF
14 NDREG
15 C.P.ON/H
16 CAPSW
17 SREG3V
18 REG4.8V
19 NDREGGND
20 SIG.GND
TO SUB SERVO/
Page:3-41
1 CAPGND
2 CYLGND
3 TRIWAVE
4 NDREG
5 REG4.8V
6 SSREG3V
7 CAPVM
TO AUDIO/
Page:3-43
1 SSG.GND
5 RAD/GND
2 ST.4.8V
4 REG4.8V
3 REG3V
TO LUMI. & CHRO/
Page:3-37
1 ST.4.8V
2 REG4.8V
3 REG3V
4 V.PB4.8V
5
6 ANA.GND
TO PROCESS/
Page:3-25
1 NDREG
2 REG4.8V
3 REG3V
4 CAM18V
5 CAM-8V
6 CAMGND
7 NDREGGND
TO SYSTEM CTL/
Page:3-33
LIBATT- 1
LIBATT+ 2
3
4
L1001 4.7u VLQ0759 or ELL04T502R
C1002 3.3
C1112 3.3
(P.ON L : ON)
QR1001 MRN2102TE85L
7.0
7.0
0
C1040 0.01
C1041 0.01
2.3
1.7
QR1061 MRN2111TE85L
(TRI. WAVE)
R1063 10K
(REG 4.8V SW)
Q1001 2SA1731
7.0
6.8
0
CL1007
T1002 VTP0357
D1002 EC20QS06 or SFPB-76
D1015 EC15QS04 or SFPB-64
C1055 1
CL1014
L1002 21u VLQ0760 or ELL04T016R
C1003 3.3
C1004 330P
R1080 0
L1004 10u
R1001 8200
R1085 1K
R1038 51
C1080 0.047
R1002 2700
L1003 4.7u VLQ0763 or ELC6uB4R7M
L1012 10u
C1042 1
L1014 10u
C1057 1
C1005 1
CL1001
R1012 15.8K
C1024 1.5
R1025 1K
R1024 47
C1037 8200P
R1013 39K
C1051 0.47
R1051 27K
C1025 0.1
R1014 1800
R1052 47K
C1026 50V1
R1015 1800
R1017 1K
R1018 150
R1019 1K
C1027 100P
R1016 15K
C1028 50V0.47
C1029 470P
C1030 8200P
C1035 1000P
C1036 470P
IC1001 BA9706K
2.4
0
0.9
0
1.2
1.2
1.8
7.0
3.2
1.2
1.9
1.7
0.3
1.2
0.3
0.3
7.0
0.2
0.01
6.8
6.7
1.5
3.5
2.4
0.3
VCC
VREF
CT
RT
SCP
IN1+
IN1-
FB1
IN2+
IN2-
FB2
DY2
DX2
DY1
DX1
OUT1
DTC1
VE1
VSS
VCC
OUT3
VE3
DY3
DX3
FB3
IN3-
IN3+
CTL2
CTL1
VE2
OUT2
DTC3
C1031 1.2
R1020 150
C1033 1.2 470P
C1034 1000P
C1032 8200P
R1073 100
R1021 33
R1023 1800
R1022 15
C1073
R1072 100K
R1071 1K
(REG 3V SW)
Q1003 MPL1
3.1
7.0
6.7
CL1008
L1007 35u VLQ0761 or ELL04T027R
C1009 330P
R1005 4700
R1086 1K
R1039 390
C1081 0.047
R1006 2700
C1008 3.3
L1008 4.7u VLQ0763 or ELC6uB4R7M
C1010 1
CL1002
L1015 47u
L1006 15u
Q1001-C STOP
23Vp-p (1μsec./div.)
CL1010
3.4
Q1062 MPL1
(CAP VM SW)
6.9
7.0
L1062 38u VLQ0762 or ELL04T009R
C1064 10V33
ECEV1AG330SR
C1066 1
CL1015
R1065 1200
IC1001-27 STOP
0.5Vp-p (1μsec./div.)
IC1001-9 STOP
1.0Vp-p (1μsec./div.)
IC1001-11 STOP
1.0Vp-p (1μsec./div.)
(CAM -8V SW)
Q1004 2SD2210
0.3
6.9
CL1009
CL1001
R1007 33
C1012 1000P
T1001 ELL04T061R
D1006 MA132K
C1017 25V1
R1008 22K
C1014 560P
L1010 10u
R1040 120
R1009 1500
R1035 47
D1007 MA132K
C1020 1
L1011 100u
C1022 0.1
C1019 25V0.47
CL1004
CL1006
CL1005
Q1004-C STOP
15Vp-p (1μsec./div.)

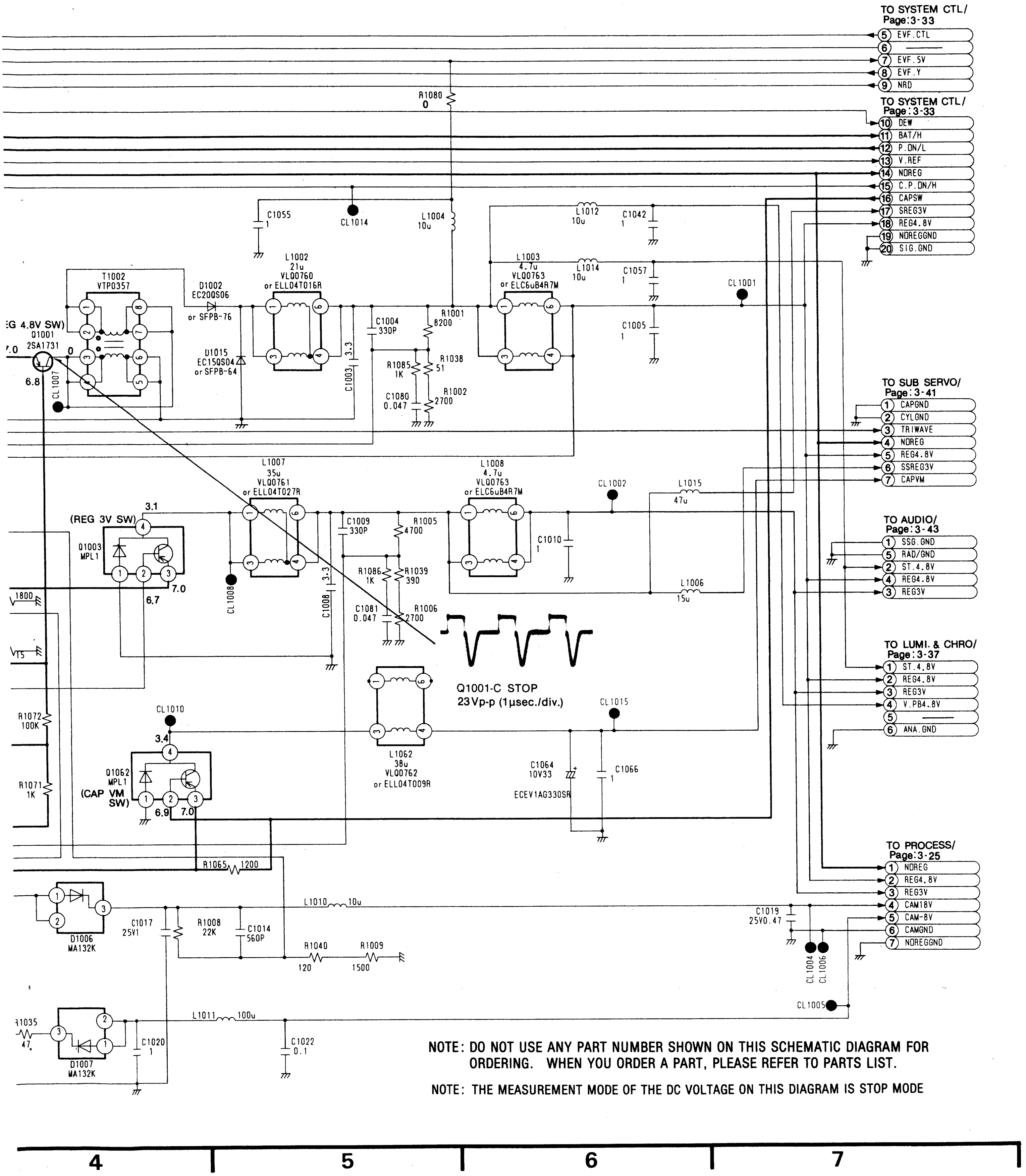
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

VCC
VREF
CT
RT
SCP
IN1+
IN1-
FB1

SYS

REF. I
MODE
STOP
PLAY
F.F
REF. I
MODE
STOP
PLAY
F.F
REF. I
MODE
STOP
PLAY
F.F
REF. I
MODE
STOP
PLAY
F.F

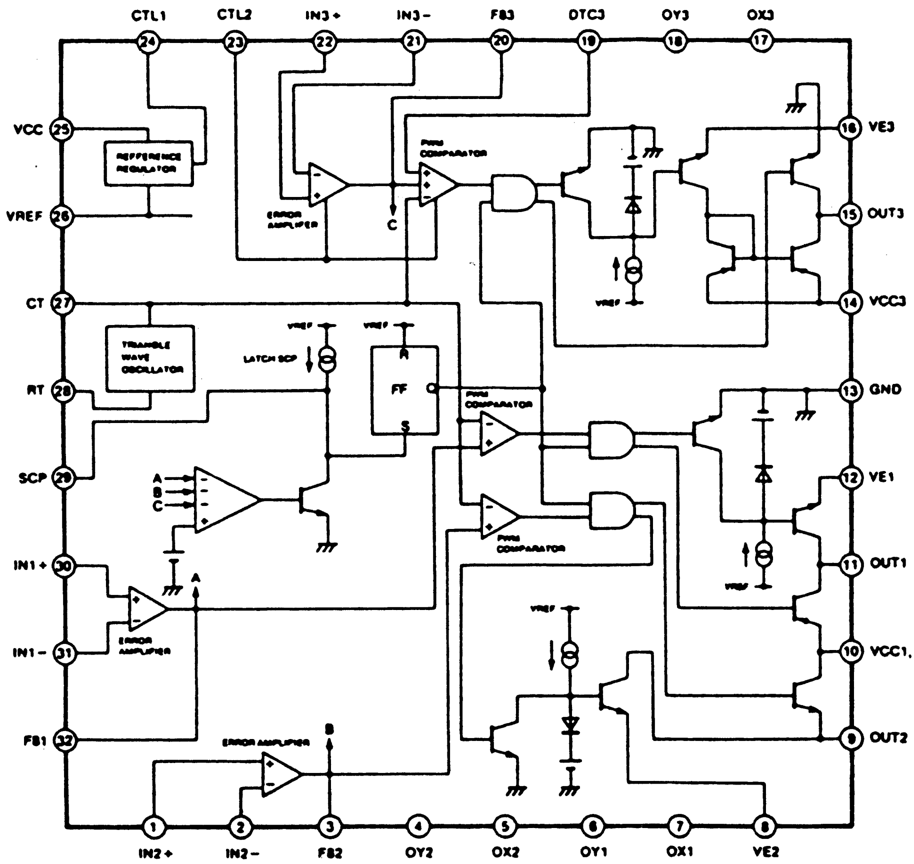

TO SYSTEM CTL/
Page:3-33
⑤ EVF.CTL
⑥ ———
⑦ EVF.5V
⑧ EVF.Y
⑨ NRD
R1080
0
TO SYSTEM CTL/
Page:3-33
⑩ DEW
⑪ BAT/H
⑫ P.ON/L
⑬ V.REF
⑭ NOREG
⑮ C.P.ON/H
⑯ CAPSW
⑰ SREG3V
⑱ REG4.8V
⑲ NOREGGND
⑳ SIG.GND
C1055
1
CL1014
L1004
10u
L1012
10u
C1042
1
L1002
21u
VLQ0760
or ELL04T016R
L1003
4.7u
VLQ0763
or ELC6uB4R7M
L1014
10u
C1057
1
CL1001
T1002
VTP0357
D1002
EC20QS06
or SFPB-76
D1015
EC15QS04
or SFPB-64
EG 4.8V SW)
Q1001
2SA1731
0
6.8
CL1007
C1004
330P
C1003
3.3
R1001
8200
R1038
51
R1085
1K
C1080
0.047
R1002
2700
C1005
1
TO SUB SERVO/
Page:3-41
① CAPGND
② CYLGND
③ TRIWAVE
④ NOREG
⑤ REG4.8V
⑥ SSREG3V
⑦ CAPVM
L1007
35u
VLQ0761
or ELL04T027R
L1008
4.7u
VLQ0763
or ELC6uB4R7M
CL1002
L1015
47u
(REG 3V SW)
3.1
Q1003
MPL1
7.0
6.7
C1009
330P
R1005
4700
CL1008
C1008
3.3
R1086
1K
R1039
390
C1081
0.047
R1006
2700
C1010
1
L1006
15u
TO AUDIO/
Page:3-43
① SSG.GND
⑤ RAD/GND
② ST.4.8V
④ REG4.8V
③ REG3V
Q1001-C STOP
23Vp-p (1µsec./div.)
CL1015
TO LUMI. & CHRO/
Page:3-37
① ST.4.8V
② REG4.8V
③ REG3V
④ V.PB4.8V
⑤ ———
⑥ ANA.GND
R1072
100K
CL1010
3.4
Q1062
MPL1
(CAP VM SW)
6.9
7.0
R1071
1K
L1062
38u
VLQ0762
or ELL04T009R
C1064
10V33
ECEV1AG330SR
C1066
1
R1065
1200
TO PROCESS/
Page:3-25
① NOREG
② REG4.8V
③ REG3V
④ CAM18V
⑤ CAM-8V
⑥ CAMGND
⑦ NOREGGND
D1006
MA132K
C1017
25V1
R1008
22K
C1014
560P
L1010
10u
C1019
25V0.47
R1040
120
R1009
1500
CL1004
CL1006
CL1005
R1035
47
D1007
MA132K
C1020
1
L1011
100u
C1022
0.1
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE

POWER IC BLOCK

IC1001 (BA9706K)
(LOCATION: C-3)


CTL1
CTL2
IN3+
IN3−
FB3
DTC3
OY3
OX3
24
23
22
21
20
19
18
17
VCC 25
VREF 26
CT 27
RT 28
SCP 29
IN1+ 30
IN1− 31
FB1 32
REFFERENCE REGULATOR
ERROR AMPLIFIER
PWM COMPARATOR
C
TRIANGLE WAVE OSCILLATOR
LATCH SCP
VREF
R
FF
S
Q
A
B
C
PWM COMPARATOR
ERROR AMPLIFIER
ERROR AMPLIFIER
16 VE3
15 OUT3
14 VCC3
13 GND
12 VE1
11 OUT1
10 VCC1, 2
9 OUT2
1
2
3
4
5
6
7
8
IN2+
IN2−
FB2
OY2
OX2
OY1
OX1
VE2

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q6002			Q6004			Q6005						Q6006			Q6201		
MODE	E	C	B	E	C	B	1	2	3	4	5	6	E	C	B	E	C	B
STOP	0.2	7.0	0	3.2	0	3.1	0	0	0.1	4.9	0	4.9	7.0	7.0	6.4	3.2	0.3	0
PLAY	0.1	7.0	0	3.2	0	3.1	0	2.8	0.2	4.6	0.1	4.4	7.0	7.0	6.4	0	3.1	2.6
F.F	0.4	6.9	0.5	3.2	0	3.1	0	2.4	0.2	4.6	0.1	4.4	6.9	6.9	6.3	3.2	3.1	2.6
REF. NO.	QR6002						QR6003			QR6004						QR6005		
MODE	1	2	3	4	5	6	E	C	B	1	2	3	4	5	6	E	C	B
STOP	0	0	0	0	3.2	6.8	3.0	0	3.2	3.0	0	0	3.0	3.2	3.0	0	0	3.2
PLAY	0	0	0	0	3.2	6.6	3.0	0	3.2	3.0	0	0	3.0	3.2	3.0	0	0	3.2
F.F	0	0	0	0	3.2	6.6	3.0	0.5	3.0	3.0	3.2	3.0	3.0	0	0	0	0	3.2
REF. NO.	QR6007			QR6010						QR6012			QR6014			QR6015		
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	0	0	3.1	2.6	0	2.9	0.1	0		0	2.7	0	0	3.0	0	0	6.9	0
PLAY	0	0	3.1	2.6	0	2.7	0.2	0.1		0	2.6	0	0	3.0	0	0	6.6	0
F.F	0	0	3.1	2.6	0	2.7	0.2	0.1		0	2.7	0	0	3.0	0	0	6.4	0
REF. NO.	QR6050																	
MODE	1	2	3	4	5													
STOP	0	0	0	0	0													
PLAY	0	0	0	3.2	3.2													
F.F	0	0	0	0	0													

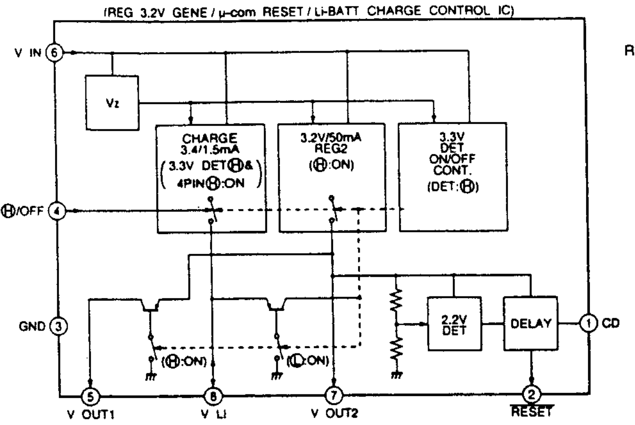
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	3.2	0	3.2	0	3.2	3.1	3.2	3.2	0	3.2	0	3.2	0	2.2	0	1.5	0	0	0
PLAY	0	3.2	0	3.2	0	3.2	3.1	3.2	0	0	3.2	0	3.2	0	2.3	3.1	1.8	0	0	3.2
F.F	0	3.2	3.2	0	3.2	3.0	3.1	3.2	0	0	3.2	0	3.2	0	2.3	1.6	1.8	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	1.6	3.2	3.2	0	3.0	0.1	0	0	3.0	0	3.0	3.0	0	3.0	3.0	3.2	1.6	1.5
PLAY	3.2	0	1.6	0	3.2	0	3.0	0.1	0	0	3.0	0	3.0	3.0	0	3.0	3.0	3.2	3.2	1.6
F.F	0	0	1.6	3.2	3.2	0	3.0	0.1	0	0	3.0	0	3.0	3.0	0	3.0	3.0	3.2	3.2	1.6
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	1.5	1.0	0	0	0	2.8	0	3.2	0.2	3.2	0.2	2.6	3.0	2.9	3.0	3.0	3.0	1.4	3.2	0.9
PLAY	1.5	1.0	0	0	2.8	2.8	0	0.2	0.1	0.5	0.1	2.6	2.7	2.7	3.0	3.0	3.0	0	0	0.9
F.F	1.5	1.1	0	0	2.4	2.8	0	3.2	0.1	3.2	0.2	2.6	2.7	2.7	3.0	3.0	3.0	0	3.2	0.9
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	3.2	0	0	3.2	3.2	0	1.4	0	2.6	2.5	3.0	1.0	3.0	3.1	0	0	1.6	1.6
PLAY	0	0	3.0	0	3.2	3.2	0	0	1.3	0	0	2.0	3.0	1.0	1.5	1.5	0.2	0	1.6	1.6
F.F	0	0	1.6	0	3.2	3.2	0	0	1.3	0	2.6	1.4	2.0	1.0	1.5	1.5	0	0	1.6	1.6
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	1.4	1.8	3.2	0	0.8	0.8	0	0	0	3.0	0	3.2	0.1	3.0	3.2	0	1.8	3.0	2.4	1.7
PLAY	1.4	1.7	3.2	2.8	3.2	0	0	0	0	3.0	1.6	3.2	1.4	1.4	3.2	0	2.0	2.9	2.4	1.8
F.F	1.4	1.7	3.2	0	0.8	0.8	0	0	0	3.0	0	3.2	1.3	1.4	3.2	0	1.9	3.0	2.4	1.7
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0	0	0	0	3.0	3.0	3.0	3.0	3.2	3.2	3.2	3.2	3.2	3.2	0	3.2	3.2	0	0	0
PLAY	0	0	0	0	3.0	3.0	3.0	3.0	3.2	3.2	3.2	3.2	2.9	2.4	0	3.2	3.2	0	0	0
F.F	0	0	0	0	3.0	3.0	3.0	3.0	3.2	3.2	3.2	3.2	2.9	2.4	0	3.2	3.2	0	0	0
REF. NO.	IC6001																			
MODE	121	122	123	124	125	126	127	128												
STOP	0	0	3.2	3.2	0	0	3.2	0												
PLAY	0	0	3.2	3.2	0	0	3.2	0												
F.F	0	0	3.2	3.2	0	0	3.2	0												
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8												
STOP	3.2	3.1	0	6.8	3.2	7.0	3.2	3.3												
PLAY	3.2	3.1	0	6.6	3.2	7.0	3.2	3.3												
F.F	3.2	3.1	0	6.6	3.2	6.9	3.2	3.4												
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.9	2.8	2.6	3.1	3.0	0	1.7	1.4	0	0	0	0	0	0	0	0	0	0	3.0	2.7
PLAY	2.7	2.7	2.6	3.1	3.0	0	0	1.4	0	0	0	0	0	0	0	0	0	0	3.0	2.7
F.F	2.7	0	2.6	3.1	3.0	0	1.7	1.4	0	0	0	0	0	0	0	0	0	0	3.0	2.7
REF. NO.	IC6004										IC6005									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
STOP	3.0	3.0	3.0	3.0	3.0	3.0	0	0			0	7.0	4.9	0	0	3.0	0	0		
PLAY	3.0	3.0	3.0	3.0	3.0	3.0	0	0			0	7.0	4.9	0	0	3.0	0	0		
F.F	3.0	3.0	3.0	3.0	3.0	3.0	0	0			0	7.0	4.9	0	0	3.0	0	0		
REF. NO.	IC6006										IC6007									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
STOP	3.0	0.8	0.6	0	0	0	0	3.0			0.1	0	0	0	2.8	0.1	0	3.0		
PLAY	3.0	0.7	0.6	0	0	0	0	3.0			0.1	0	0	0	2.8	0.1	0	3.0		
F.F	2.0	0.7	0.7	0	0	0	0	3.0			0.1	0	0	0	2.8	0.1	0	3.0		
REF. NO.	IC6008										IC6009									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	0.1	2.8	2.8	0	0	0.3	3.0	3.0			1.5	1.5	0	1.4	3.0					
PLAY	0.1	2.8	2.8	0	0	0.3	3.0	3.0			1.5	1.5	0	1.4	3.0					
F.F	0.1	2.8	2.8	0	0	0.3	3.0	3.0			1.5	1.5	0	1.4	3.0					

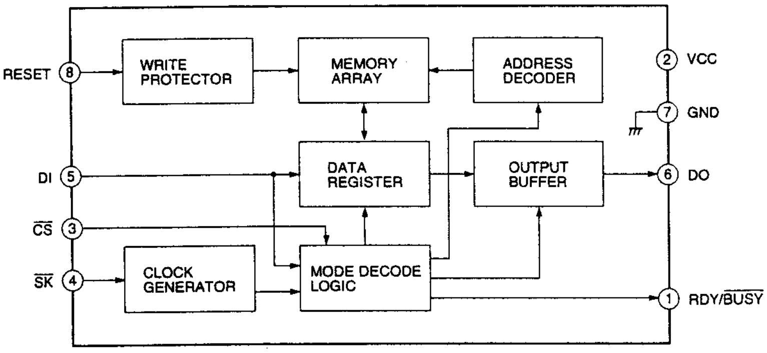
SYSTEM CONTROL IC BLOCK

IC6002 (MN1273XFFK)
(LOCATION: B-8)

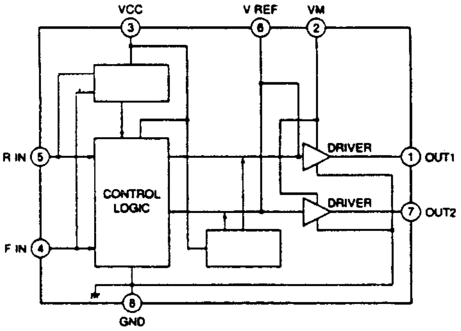
(REG 3.2V GENE / μ-com RESET / Li-BATT CHARGE CONTROL IC)


V IN ⑥
Vz
CHARGE 3.4/1.5mA (3.3V DET Ⓗ & 4PIN Ⓗ:ON)
3.2V/50mA REG2 (Ⓗ:ON)
3.3V DET ON/OFF CONT. (DET: Ⓗ)
ON Ⓗ/OFF ④
GND ③
(Ⓗ:ON)
(Ⓛ:ON)
2.2V DET
DELAY
① CD
⑤ V OUT1
⑧ V LI
⑦ V OUT2
② RESET

IC6004 (S29355A)
(LOCATION: D-10)

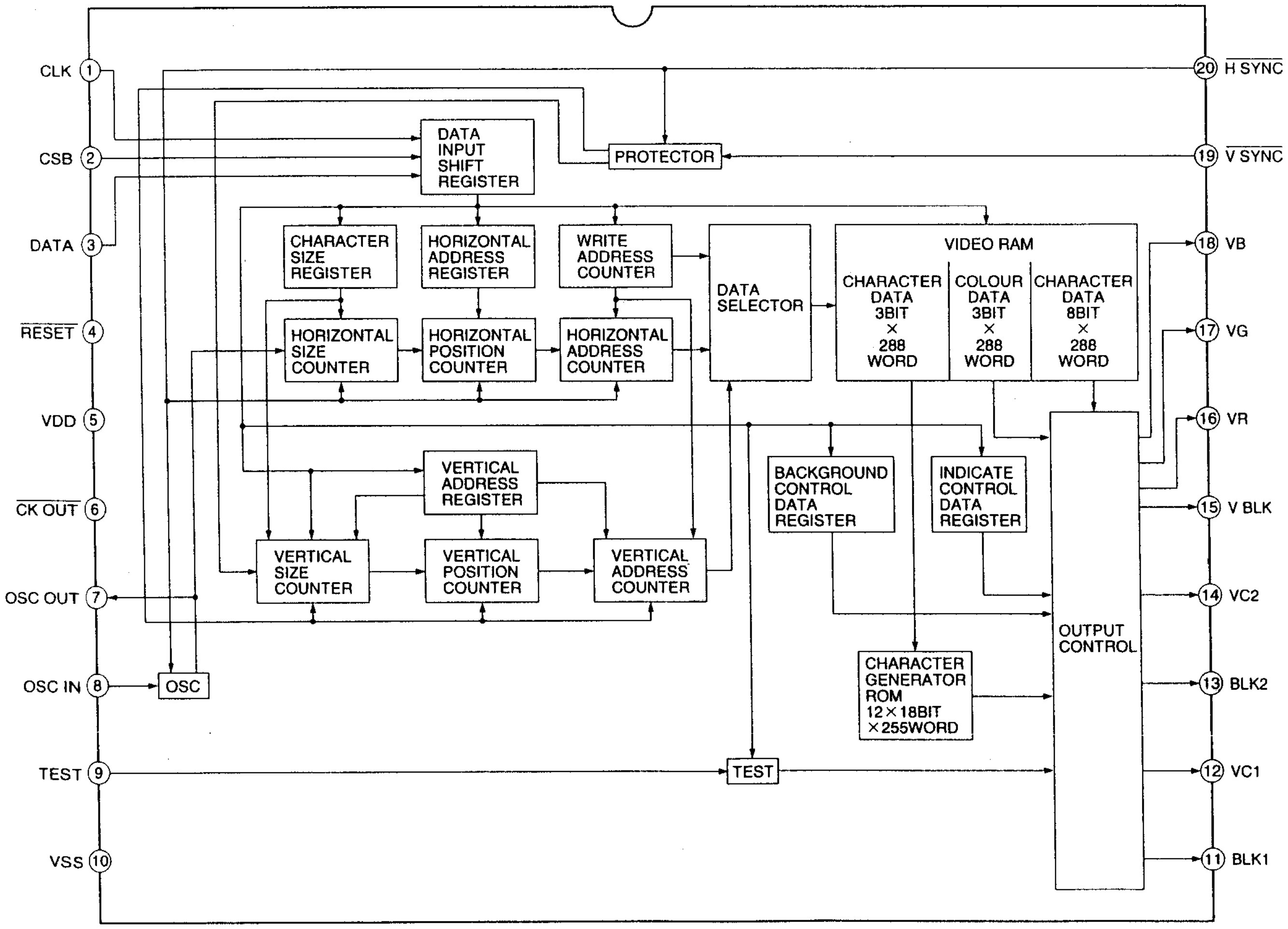

RESET ⑧
WRITE PROTECTOR
MEMORY ARRAY
ADDRESS DECODER
② VCC
⑦ GND
DI ⑤
DATA REGISTER
OUTPUT BUFFER
⑥ DO
CS ③
SK ④
CLOCK GENERATOR
MODE DECODE LOGIC
① RDY/BUSY

IC6005 (BA6289F)
(LOCATION: D-8)

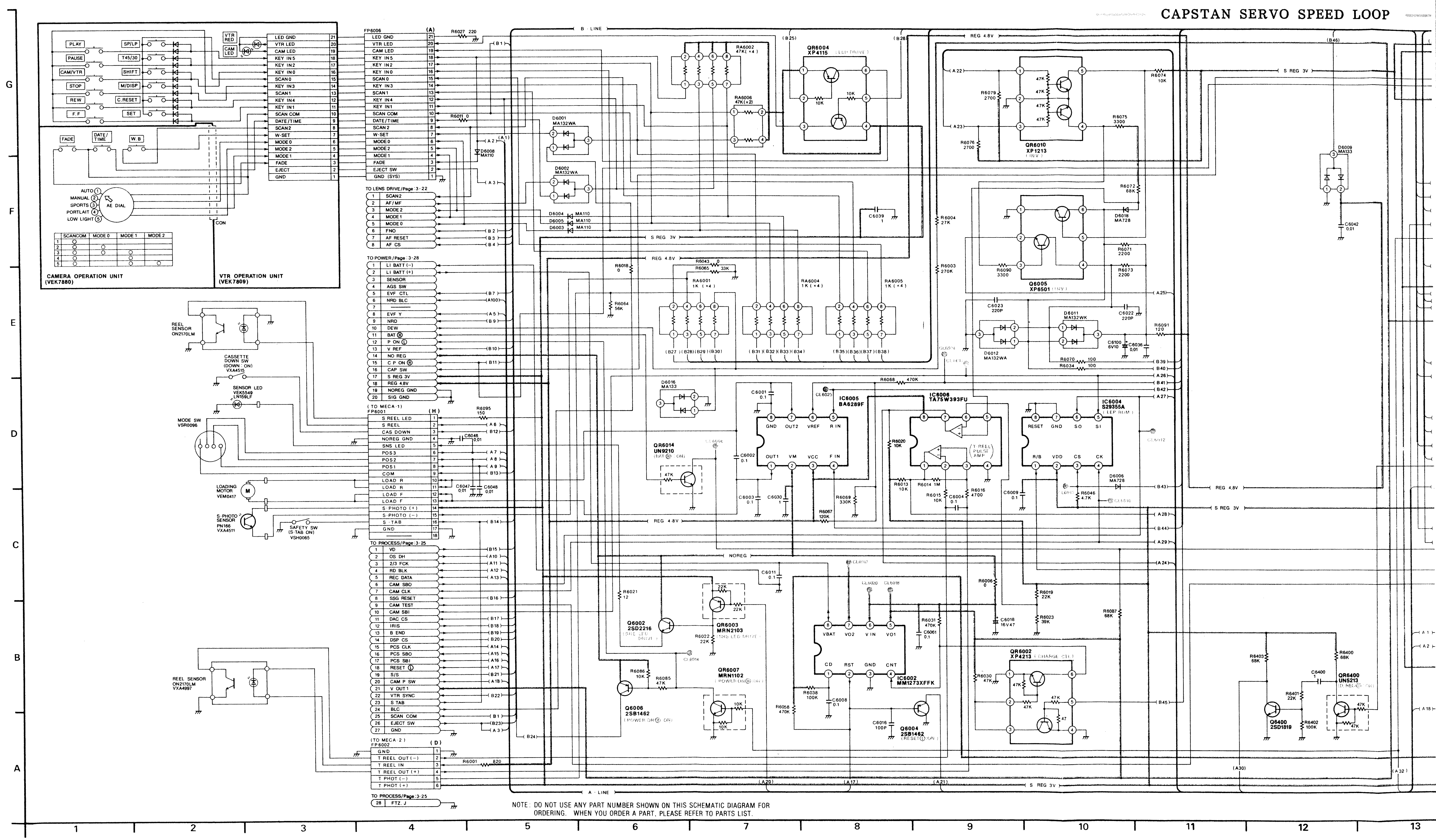

VCC ③
V REF ⑥
VM ②
R IN ⑤
F IN ④
CONTROL LOGIC
DRIVER
DRIVER
① OUT1
⑦ OUT2
⑧ GND

F IN	R IN	OUT 2	OUT 1	MODE
H	L	L	H	FORWARD
L	H	H	L	REVERSE
H	H	L	L	BRAKE
L	L	OPEN	OPEN	STAND BY

IC6003 (BU6194FV)
(LOCATION: C-22)

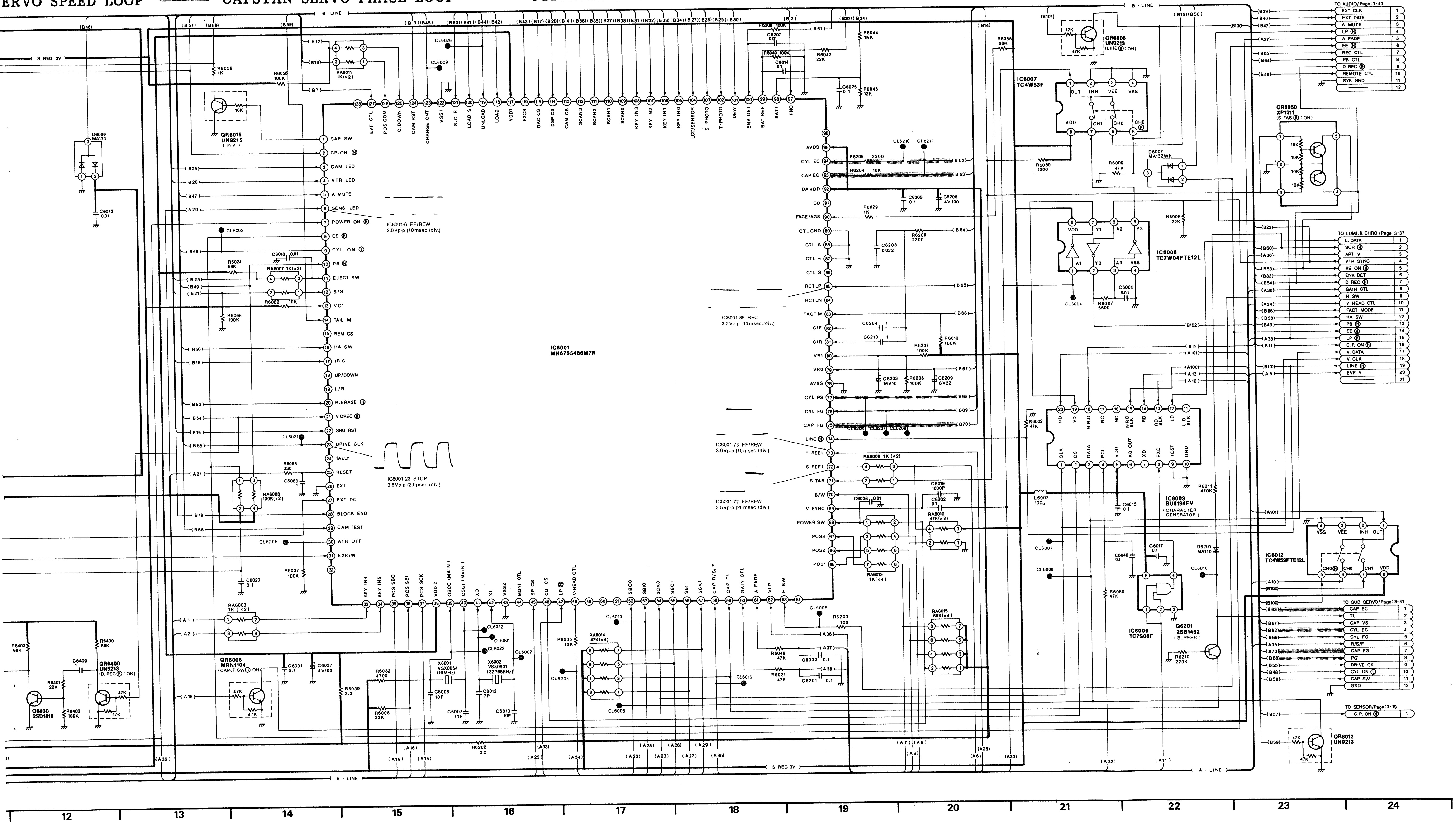

CLK ①
CSB ②
DATA ③
RESET ④
VDD ⑤
CK OUT ⑥
OSC OUT ⑦
OSC IN ⑧
TEST ⑨
VSS ⑩
⑳ H SYNC
⑲ V SYNC
⑱ VB
⑰ VG
⑯ VR
⑮ V BLK
⑭ VC2
⑬ BLK2
⑫ VC1
⑪ BLK1
DATA INPUT SHIFT REGISTER
PROTECTOR
CHARACTER SIZE REGISTER
HORIZONTAL ADDRESS REGISTER
WRITE ADDRESS COUNTER
DATA SELECTOR
VIDEO RAM
CHARACTER DATA 3BIT × 288 WORD
COLOUR DATA 3BIT × 288 WORD
CHARACTER DATA 8BIT × 288 WORD
HORIZONTAL SIZE COUNTER
HORIZONTAL POSITION COUNTER
HORIZONTAL ADDRESS COUNTER
VERTICAL ADDRESS REGISTER
BACKGROUND CONTROL DATA REGISTER
INDICATE CONTROL DATA REGISTER
VERTICAL SIZE COUNTER
VERTICAL POSITION COUNTER
VERTICAL ADDRESS COUNTER
OUTPUT CONTROL
CHARACTER GENERATOR ROM 12×18BIT ×255WORD
OSC
TEST

3-13. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

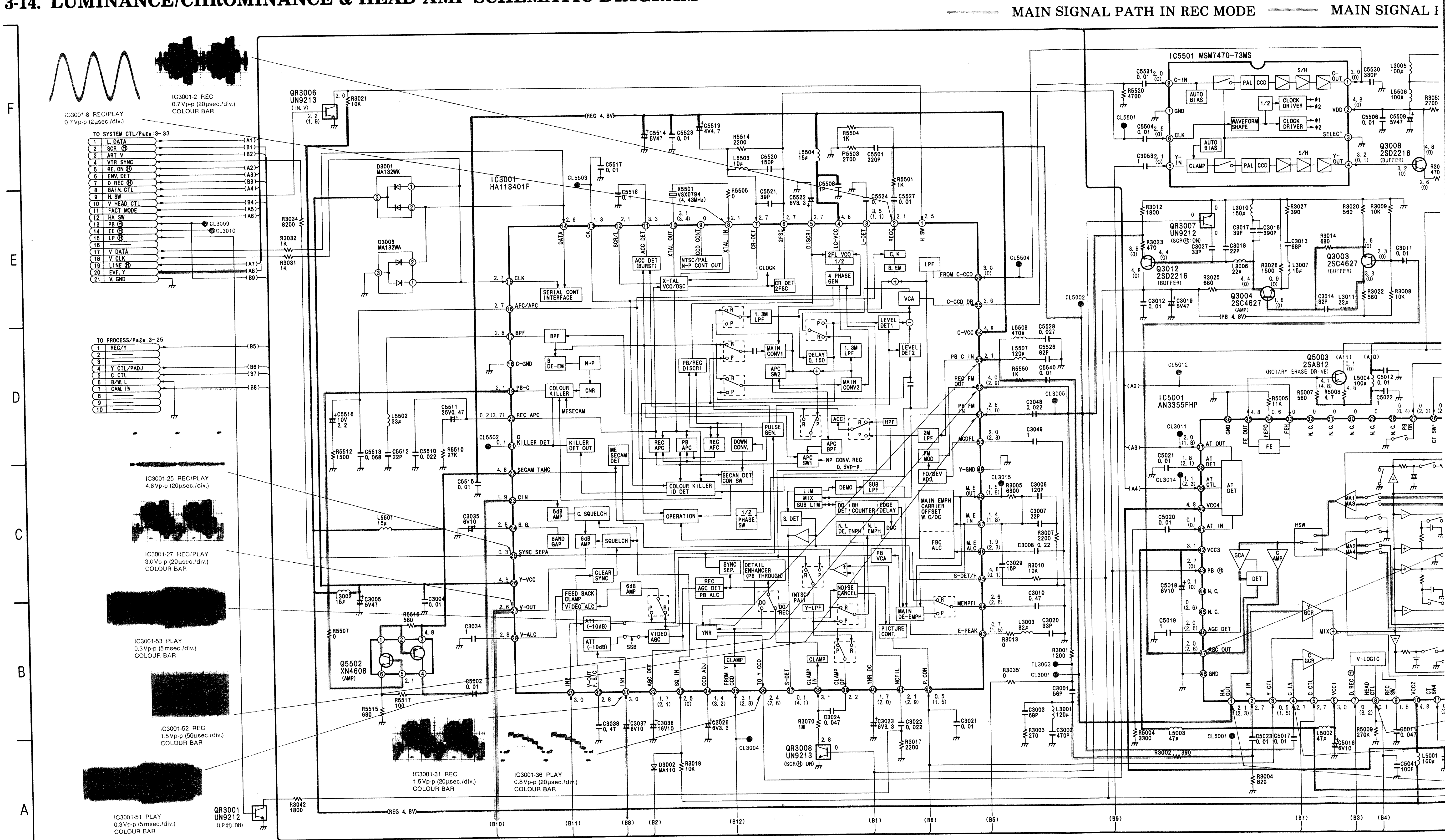

CAPSTAN SERVO SPEED LOOP
PLAY
PAUSE
CAM/VTR
STOP
REW
F.F
SP/LP
T45/30
SHIFT
M/DISP
C.RESET
SET
VTR RED
CAM LED
FADE
DATE/TIME
W.B
AUTO
MANUAL
SPORTS
PORTLAIT
LOW LIGHT
AE DIAL
SCANCOM
MODE 0
MODE 1
MODE 2
CAMERA OPERATION UNIT (VEK7880)
VTR OPERATION UNIT (VEK7809)
CON
FP6006
LED GND
VTR LED
CAM LED
KEY IN 5
KEY IN 2
KEY IN 0
SCAN 0
KEY IN 3
SCAN 1
KEY IN 4
KEY IN 1
SCAN COM
DATE/TIME
SCAN 2
W-SET
MODE 0
MODE 2
MODE 1
FADE
EJECT SW
GND (SYS)
TO LENS DRIVE/Page 3-22
AF/MF
FNO
AF RESET
AF CS
TO POWER/Page 3-28
LI BATT (−)
LI BATT (+)
SENSOR
AGS SW
EVF CTL
NRD BLC
EVF Y
NRD
DEW
V REF
NO REG
CAP SW
S REG 3V
REG 4.8V
NOREG GND
SIG GND
TO MECA-1
FP6001
S REEL LED
S REEL
CAS DOWN
NOREG GND
SNS LED
POS 3
POS 2
POS 1
COM
LOAD R
LOAD F
S-PHOTO (+)
S-PHOTO (−)
S-TAB
GND
TO PROCESS/Page 3-25
VD
OS DH
2/3 FCK
RD BLK
REC DATA
CAM SBO
CAM CLK
SSG RESET
CAM TEST
CAM SBI
DAC CS
IRIS
B END
DSP CS
PCS CLK
PCS SBO
PCS SBI
S/S
CAM P SW
V OUT 1
VTR SYNC
S TAB
BLC
SCAN COM
EJECT SW
TO MECA-2
FP6002
T REEL OUT (−)
T REEL IN
T REEL OUT (+)
T PHOT (−)
T PHOT (+)
FTZ. J
REEL SENSOR ON2170LM
CASSETTE DOWN SW (DOWN: ON) VXA4515
SENSOR LED VEK5549 LN159LF
MODE SW VSR0096
LOADING MOTOR VEM0417
S-PHOTO SENSOR PN166 VXA4511
SAFETY SW (S-TAB ON) VSH0065
REEL SENSOR ON2170LM VXA4997
R6027 220
R6011 0
R6001 820
R6095 150
C6046 0.01
C6047 0.01
C6048 0.01
D6008 MA110
B LINE
A LINE
S REG 3V
REG 4.8V
NOREG
D6001 MA132WA
D6002 MA132WA
D6004 MA110
D6005 MA110
D6003 MA110
RA6002 47K(×4)
RA6006 47K(×2)
QR6004 XP4115 (LED DRIVE)
10K
C6039 1
R6018 0
R6043 0
R6065 33K
R6064 56K
RA6001 1K(×4)
RA6004 1K(×4)
RA6005 1K(×4)
D6016 MA133
QR6014 UN9210 (BAT ON)
47K
C6001 0.1
IC6005 BA6289F
GND
OUT2
VREF
R IN
OUT1
VM
VCC
F IN
C6002 0.1
C6003 0.1
C6030 1
R6069 330K
R6067 120K
R6068 470K
IC6006 TA75W393FU
T REEL PULSE AMP
R6020 10K
R6013 10K
R6014 1M
R6015 10K
C6004 0.1
R6016 4700
IC6004 S29355A (EEP ROM)
RESET
SO
SI
R/B
VDD
CS
CK
C6009 0.1
D6006 MA728
R6046 4.7K
C6011 0.1
R6021 12
Q6002 2SD2216 (SNS LED DRIVE)
QR6003 MRN2103 (SNS LED DRIVE)
22K
R6022 22K
R6086 10K
R6085 47K
Q6006 2SB1462 (POWER ON)
QR6007 MRN1102 (POWER ON)
IC6002 MM1273XFFK
VBAT
VO2
V IN
VO1
CD
RST
CNT
R6031 470K
C6061 0.1
R6038 100K
C6008 0.1
R6058 470K
C6016 100P
Q6004 2SB1462 (RESET ON)
R6006 0
R6019 22K
R6023 39K
C6018 16V47
R6087 68K
QR6002 XP4213 (CHARGE CTL)
R6030 47K
47K
R6004 27K
R6003 270K
QR6010 XP1213
R6079 2700
R6076 2700
R6074 10K
R6075 3300
R6072 68K
Q6005 XP6501 (INV)
D6018 MA728
R6071 2200
R6073 2200
R6090 3300
C6023 220P
D6011 MA132WK
D6012 MA132WA
C6022 220P
R6091 120
C6100 6V10
C6036 0.01
R6070 100
R6034 100
D6009 MA133
C6042 0.01
R6403 68K
R6400 68K
C6400 1
QR6400 UN5213 (D REEL)
R6401 22K
R6402 100K
Q6400 2SD1819
47K
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SERVO SPEED LOOP — CAPSTAN SERVO PHASE LOOP — CYLINDER SERVO SPEED LOOP — CYLINDER SERVO PHASE LOOP


B · LINE
A · LINE
S REG 3V
IC6001
MN6755486M7R
1 CAP SW
2 CP. ON Ⓗ
3 CAM LED
4 VTR LED
5 A. MUTE
6 SENS LED
7 POWER ON Ⓗ
8 EE Ⓗ
9 CYL ON Ⓛ
10 PB Ⓗ
11 EJECT SW
12 S/S
13 VO1
14 TAIL M
15 REM CS
16 HA SW
17 IRIS
18 UP/DOWN
19 L/R
20 R. ERASE Ⓗ
21 V DREC Ⓗ
22 SSG RST
23 DRIVE. CLK
24 TALLY
25 RESET
26 EXI
27 EXT DC
28 BLOCK END
29 CAM TEST
30 ATR OFF
31 E2R/W
KEY IN4
KEY IN5
PCS SBO
PCS SBI
PCS SCK
VDD 2
OSCO (MAIN)
OSCI (MAIN)
XO
XI
VSS2
MONI CTL
SP CS
CG CS
LP Ⓗ
V-HEAD CTL
SBO0
SBI0
SCK0
SBO1
SBI1
SCK1
CAP. R/S/F
CAP. TL
GAIN CTL
A. FADE
VLP
H. SW
EVF CTL
POS COM
C. DOWN
CAM RST
CHARGE CNT
VSS1
S. C. R
LOAD S
UNLOAD
LOAD
VDD1
E2CS
DAC CS
DSP CS
CAM CS
SCAN3
SCAN2
SCAN1
SCAN0
KEY IN3
KEY IN2
KEY IN1
KEY IN0
LCD/SENSOR
S. PHOTO
T. PHOTO
DEW
ENV DET
BAT REF
BATT
FNO
AVDD
CYL EC
CAP EC
DA VDD
CO
FACE/AGS
CTL GND
CTL A
CTL H
CTL S
RCTLP
RCTLN
FACT M
C1F
C1R
VR1
VR0
AVSS
CYL PG
CYL FG
CAP FG
LINE Ⓗ
T-REEL
S-REEL
S TAB
B/W
V SYNC
POWER SW
POS3
POS2
POS1
IC6001-6 FF/REW
3.0Vp-p (10msec./div.)
IC6001-23 STOP
0.6Vp-p (2.0μsec./div.)
IC6001-85 REC
3.2Vp-p (10msec./div.)
IC6001-73 FF/REW
3.0Vp-p (10msec./div.)
IC6001-72 FF/REW
3.5Vp-p (20msec./div.)
QR6015
UN9215
(INV)
QR6005
MRN1104
(CAM.P.SW Ⓡ ON)
QR6400
UN5213
(D.REC Ⓡ : ON)
Q6400
2SD1819
X6001
VSX0654
(16MHz)
X6002
VSX0601
(32.768KHz)
D6009
MA133
RA6011 1K(×2)
RA6007 1K(×2)
RA6008 100K(×2)
RA6003 1K(×2)
RA6014 47K(×4)
RA6009 1K (×2)
RA6010 47K(×2)
RA6013 1K(×4)
RA6015 68K(×4)
IC6007
TC4W53F
OUT INH VEE VSS
VDD CH1 CH0
QR6006
UN9213
(LINE Ⓗ : ON)
QR6050
XP1211
(S-TAB Ⓗ : ON)
D6007
MA132WK
IC6008
TC7W04FTE12L
VDD Y1 A2 Y3
A1 Y2 A3 VSS
IC6003
BU6194FV
(CHARACTER GENERATOR)
HD VD N.R.D NC NC N.R.D BLK RD BLK LD LD BLK
CLK CS DATA PCL VDD XD OUT XD EXD TEST GND
IC6012
TC4W59FTE12L
VSS VEE INH OUT
CH0 Ⓗ CH0 CH1 VDD
IC6009
TC7S08F
Q6201
2SB1462
(BUFFER)
D6201
MA110
L6002
100μ
QR6012
UN9213
TO AUDIO/Page.3-43
1 EXT CLK
2 EXT DATA
3 A. MUTE
4 LP Ⓗ
5 A. FADE
6 EE Ⓗ
7 REC CTL
8 PB CTL
9 D REC Ⓗ
10 REMOTE CTL
11 SYS GND
12
TO LUMI. & CHRO./Page.3-37
1 L. DATA
2 SCR Ⓗ
3 ART V
4 VTR SYNC
5 RE. ON Ⓗ
6 ENV. DET
7 D REC Ⓗ
8 GAIN CTL
9 H. SW
10 V HEAD CTL
11 FACT MODE
12 HA SW
13 PB Ⓗ
14 EE Ⓗ
15 LP Ⓗ
16 C.P. ON Ⓗ
17 V. DATA
18 V. CLK
19 LINE Ⓗ
20 EVF. Y
21
TO SUB SERVO/Page.3-41
1 CAP EC
2 TL
3 CAP VS
4 CYL EC
5 CYL FG
6 R/S/F
7 CAP FG
8 PG
9 DRIVE CK
10 CYL ON Ⓛ
11 CAP SW
12 GND
TO SENSOR/Page.3-19
1 C.P. ON Ⓗ
12
13
14
15
16
17
18
19
20
21
22
23
24

3-14. LUMINANCE/CHROMINANCE & HEAD AMP SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL I
IC3001-8 REC/PLAY
0.7Vp-p (2μsec./div.)
IC3001-2 REC
0.7Vp-p (20μsec./div.)
COLOUR BAR
TO SYSTEM CTL/Page: 3-33
1 L. DATA
2 SCR Ⓗ
3 ART V
4 VTR SYNC
5 RE. ON Ⓗ
6 ENV. DET
7 D REC Ⓗ
8 BAIN. CTL
9 H. SW
10 V HEAD CTL
11 FACT MODE
12 HA SW
13 PB Ⓗ
14 EE Ⓗ
15 LP Ⓗ
16
17 V DATA
18 V CLK
19 LINE Ⓗ
20 EVF. Y
21 V. GND
CL3009
CL3010
TO PROCESS/Page: 3-25
1 REC/Y
2
3
4 Y CTL/PADJ
5 C CTL
6 B/W. L
7 CAM. IN
8
9
10
IC3001-25 REC/PLAY
4.8Vp-p (20μsec./div.)
IC3001-27 REC/PLAY
3.0Vp-p (20μsec./div.)
COLOUR BAR
IC3001-53 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC3001-52 REC
1.5Vp-p (50μsec./div.)
COLOUR BAR
IC3001-51 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR
IC3001-31 REC
1.5Vp-p (20μsec./div.)
COLOUR BAR
IC3001-36 PLAY
0.8Vp-p (20μsec./div.)
COLOUR BAR
QR3006 UN9213 (IN. V)
QR3001 UN9212 (LP Ⓗ: ON)
QR3008 UN9213 (SCR Ⓗ: ON)
Q5502 XN4608 (AMP)
D3001 MA132WK
D3003 MA132WA
D3002 MA110
IC3001 HA118401F
X5501 VSX0794 (4.43MHz)
REG 4.8V
SERIAL CONT INTERFACE
BPF
B DE-EM
N-P
COLOUR KILLER
CNR
MESECAM
KILLER DET OUT
ME SECAM DET
6dB AMP
C. SQUELCH
BAND GAP
SQUELCH
CLEAR SYNC
FEED BACK CLAMP
VIDEO ALC
ATT (-10dB)
SSB
VIDEO AGC
YNR
CLAMP
ACC DET (BURST)
NTSC/PAL N-P CONT OUT
X-TAL VCO/OSC
CR DET 2FSC
2FL VCO 1/2
4 PHASE GEN
C.K
B. EM
LPF
VCA
LEVEL DET1
LEVEL DET2
1.3M LPF
MAIN CONV1
MAIN CONV2
DELAY 0.150
APC SW2
APC SW1
APC BPF
PB/REC DISCRI
ACC
HPF
PULSE GEN
REC APC
PB APC
REC AFC
DOWN CONV.
SECAM DET CON SW
COLOUR KILLER ID DET
OPERATION
1/2 PHASE SW
NP CONV. REC 0.5Vp-p
LIM MIX
SUB LIM
DEMO
SUB LPF
DO 1H DET
COUNTER
EDGE DELAY
N.L DE. ENPH
N.L EMPH
S. DET
SYNC SEP.
DETAIL ENHANCER (PB THROUGH)
REC AGC DET PB ALC
Y-LPF
NOISE CANCEL
PB VCA
MAIN DE-EMPH
PICTURE CONT.
2M LPF
FM MOD
FO/DEV ADJ.
MAIN EMPH CARRIER OFFSET W. C/DC
FBC ALC
FROM C-CCD
C-CCD DR
C-VCC
PB C IN
REC FM OUT
PB FM IN
MCDFL
Y-GND
M.E OUT
M.E IN
M.E ALC
S-DET/H
MENPFL
E-PEAK
CLK
AFC/APC
C-GND
PB-C
REC APC
C KILLER DET
SECAM TANC
CIN
B.G.
SYNC SEPA
Y-VCC
Y-OUT
V-ALC
DATA
CK
SCR/L
ACC DET
XTAL OUT
CCD CONT
XTAL IN
CR-DET
2FSC
DISCRI
LC-VCC
L-DET
RECC
H SW
IN2
V-OUT F.BLC
IN1
AGC DET
SB IN
CCD ADJ
FROM Y CCD
TO Y CCD
S-DET
CLAMP IN
CLAMP OP
YNR DC
NCFIL
P. CON
IC5501 MSM7470-73MS
C-IN
GND
CLK
Y-IN
C-OUT
Y-OUT
VDD
AUTO BIAS
CLAMP
PAL CCD
S/H
1/2
CLOCK DRIVER
WAVEFORM SHAPE
SELECT
Q3008 2SD2216 (BUFFER)
QR3007 UN9212 (SCR Ⓗ: ON)
Q3012 2SD2216 (BUFFER)
Q3003 2SC4627 (BUFFER)
Q3004 2SC4627 (AMP)
PB 4.8V
Q5003 2SA812 (ROTARY ERASE DRIVE)
IC5001 AN3355FHP
AT OUT
AT DET
AT CTL
AT IN
VCC4
VCC3
PB Ⓗ
N.C
AGC DET
AGC OUT
GND
FE OUT
FEFO
FEH
FE
HSW
GCA
C AMP
DET
Y GCR
C GCR
MIX
V-LOGIC
HA OUT
Y IN
Y CTL
C IN
C CTL
VCC1
D. REC Ⓗ
HEAD CTL
REC SW
VCC2
MA1
MA3
MA2
MA4
(A1) (B1) (B2) (A2) (A3) (B3) (A4) (B4) (A5) (A6) (A7) (A8) (B9) (B5) (B6) (B7) (B8)
(B10) (B11) (B8) (B2) (B12) (B1) (B6) (B5) (B9) (B7) (B3) (B4)
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

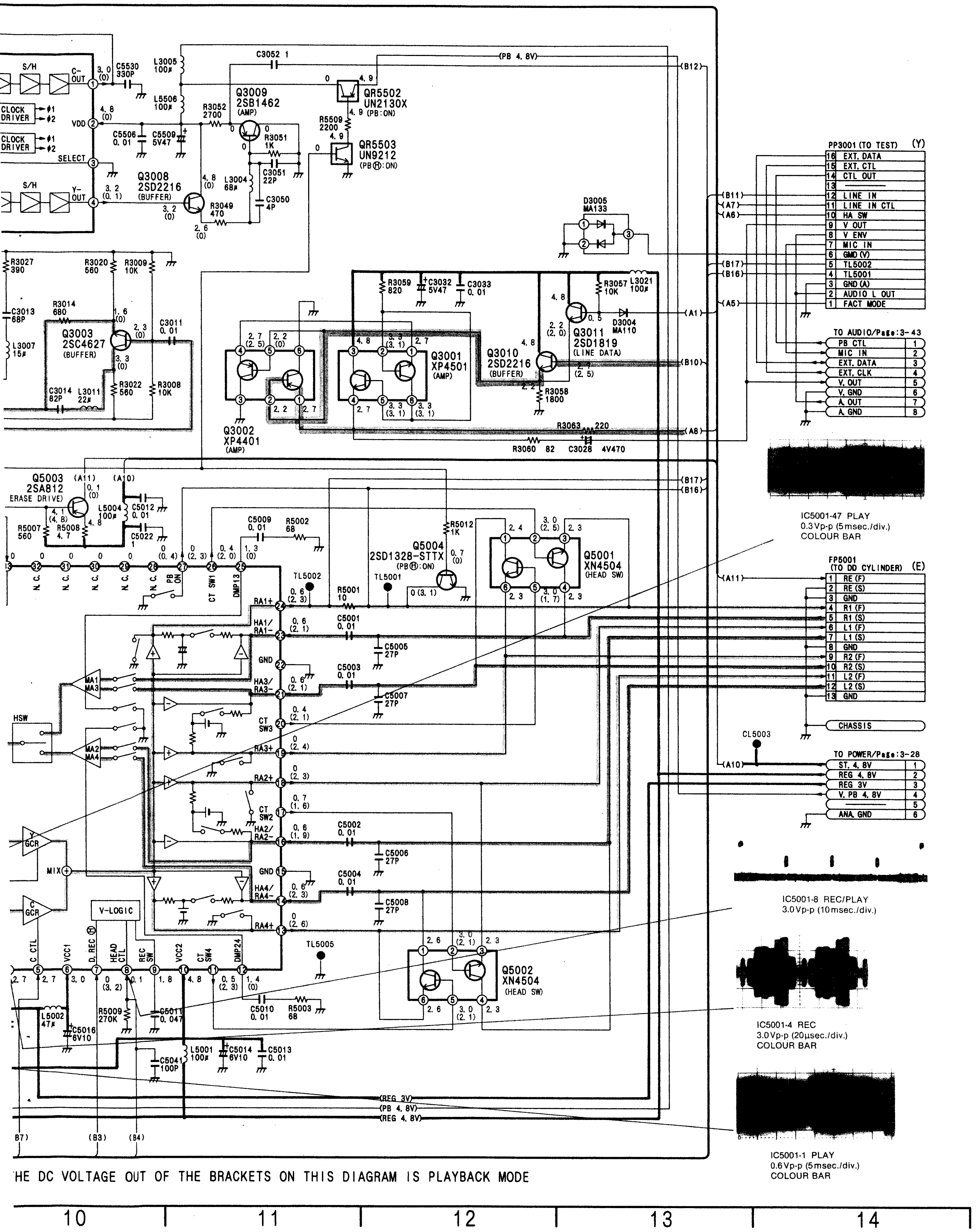
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERRIG. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BR WITH PAL COLOUR SIGNAL.

Back Page:
SYSTEM CTL & SERVO Section

MAIN SIGNAL PATH IN PLAYBACK MODE


S/H
C-OUT
CLOCK DRIVER
SELECT
Y-OUT
Q3009
2SB1462
(AMP)
QR5502
UN2130X
(PB:ON)
QR5503
UN9212
(PB⊕:ON)
Q3008
2SD2216
(BUFFER)
Q3003
2SC4627
(BUFFER)
Q3002
XP4401
(AMP)
Q3001
XP4501
(AMP)
Q3010
2SD2216
(BUFFER)
Q3011
2SD1819
(LINE DATA)
D3005
MA133
D3004
MA110
PP3001 (TO TEST) (Y)
16 EXT. DATA
15 EXT. CTL
14 CTL OUT
13
12 LINE IN
11 LINE IN CTL
10 HA SW
9 V OUT
8 V ENV
7 MIC IN
6 GND (V)
5 TL5002
4 TL5001
3 GND (A)
2 AUDIO L OUT
1 FACT MODE
TO AUDIO/Page:3-43
PB CTL 1
MIC IN 2
EXT. DATA 3
EXT. CLK 4
V. OUT 5
V. GND 6
A. OUT 7
A. GND 8
Q5003
2SA812
ERASE DRIVE
Q5004
2SD1328-STTX
(PB⊕:ON)
Q5001
XN4504
(HEAD SW)
Q5002
XN4504
(HEAD SW)
FP5001 (TO DD CYLINDER) (E)
1 RE (F)
2 RE (S)
3 GND
4 R1 (F)
5 R1 (S)
6 L1 (F)
7 L1 (S)
8 GND
9 R2 (F)
10 R2 (S)
11 L2 (F)
12 L2 (S)
13 GND
CHASSIS
CL5003
TO POWER/Page:3-28
ST. 4. 8V 1
REG 4. 8V 2
REG 3V 3
V. PB 4. 8V 4
5
ANA. GND 6
HSW
MIX
V-LOGIC
GCR
TL5001
TL5002
TL5005
(REG 3V)
(PB 4. 8V)
(REG 4. 8V)
(PB 4. 8V)
10
11
12
13
14

IC5001-47 PLAY
0.3Vp-p (5msec./div.)
COLOUR BAR

IC5001-8 REC/PLAY
3.0Vp-p (10msec./div.)

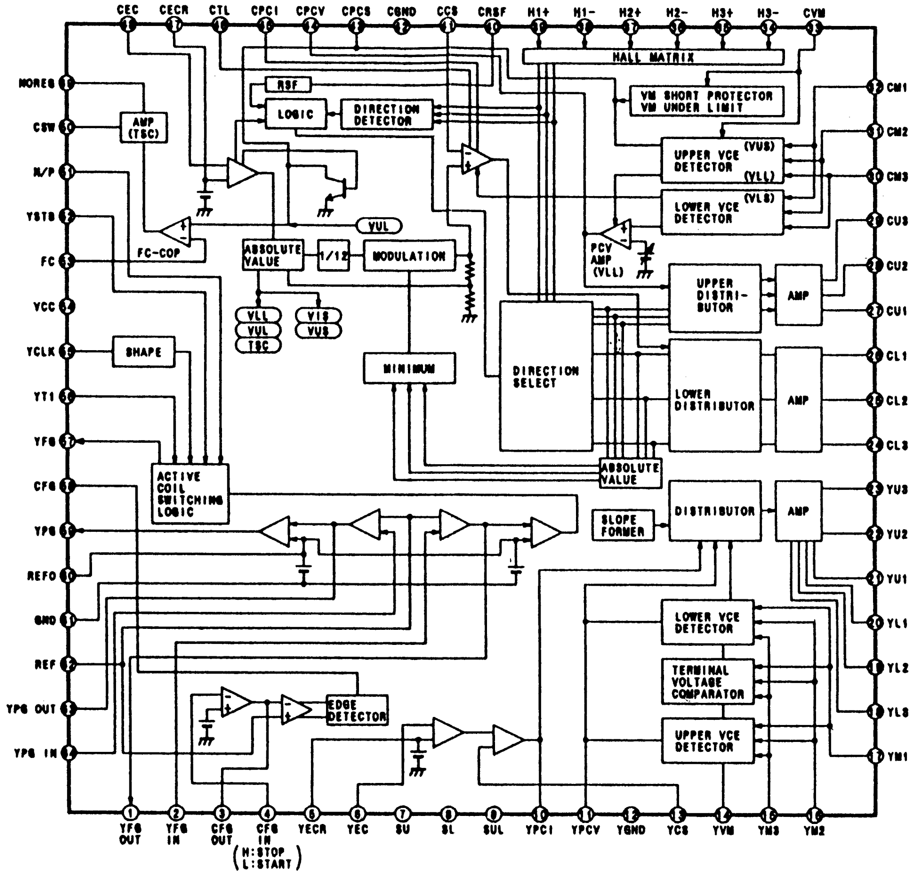
IC5001-4 REC
3.0Vp-p (20μsec./div.)
COLOUR BAR

IC5001-1 PLAY
0.6Vp-p (5msec./div.)
COLOUR BAR

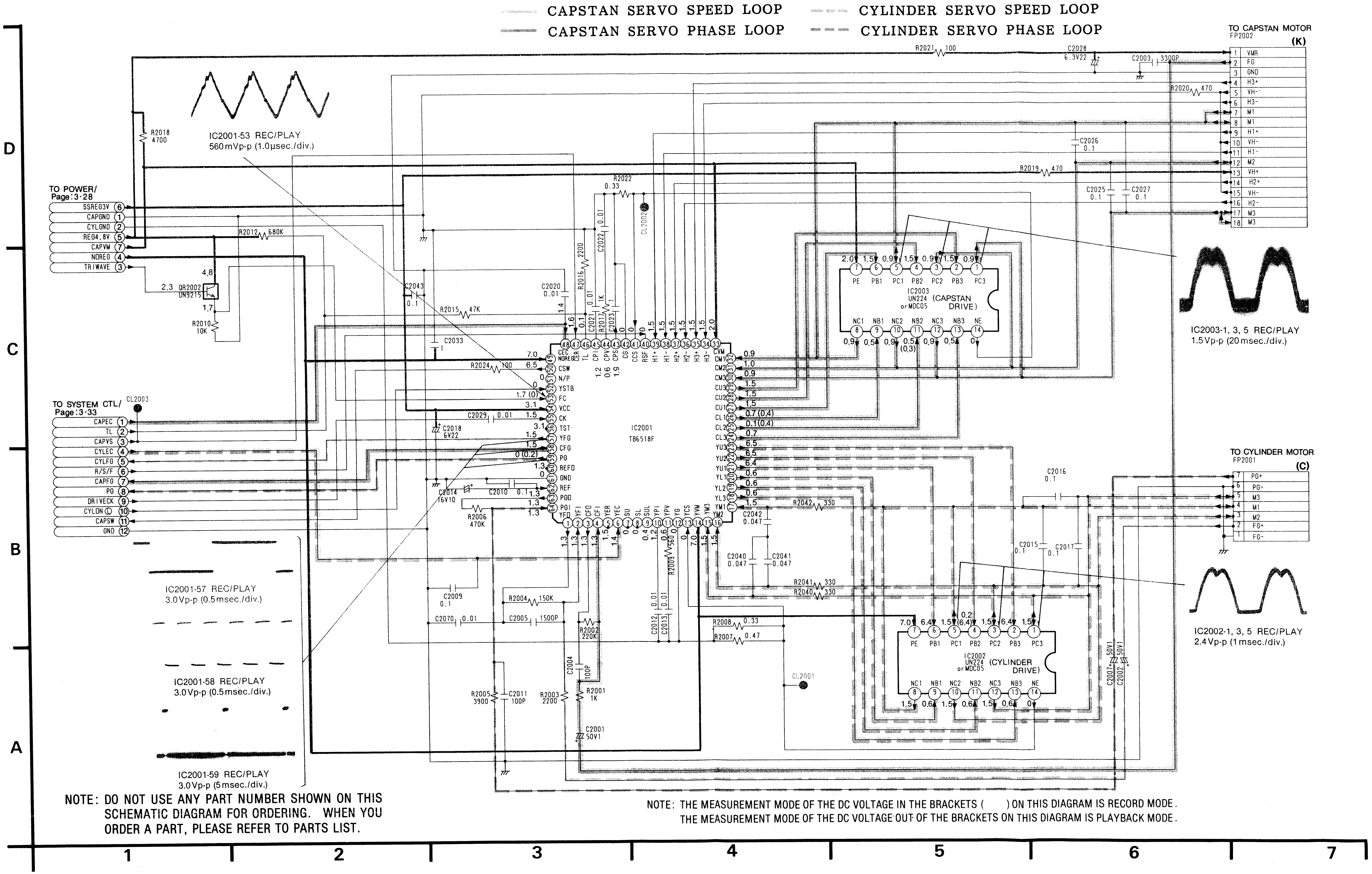
HE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

SUB SERVO IC BLOCK

IC2001 (TB6518F)
(LOCATION: C-4)


CEC
CECR
CTL
CPCI
CPCV
CPCS
CGND
CCS
CRSF
H1+
H1-
H2+
H2-
H3+
H3-
CVM
NOREG
CSW
R/P
YSTB
FC
VCC
YCLK
YT1
YFG
CFG
YPG
REFO
GND
REF
YPG OUT
YPG IN
CM1
CM2
CM3
CU3
CU2
CU1
CL1
CL2
CL3
YU3
YU2
YU1
YL1
YL2
YL3
YM1
YFG OUT
YFG IN
CFG OUT
CFG IN
(H:STOP L:START)
YECR
YEC
SU
SL
SUL
YPCI
YPCV
YGND
YCS
YVM
YM3
YM2
HALL MATRIX
VM SHORT PROTECTOR
VM UNDER LIMIT
RSF
LOGIC
DIRECTION DETECTOR
AMP (TSC)
FC-COP
ABSOLUTE VALUE
1/12
MODULATION
YUL
VLL
VUL
TSC
VIS
VUS
(VUS)
(VLL)
(VLS)
UPPER VCE DETECTOR
LOWER VCE DETECTOR
PCV AMP (VLL)
UPPER DISTRIBUTOR
AMP
SHAPE
MINIMUM
DIRECTION SELECT
LOWER DISTRIBUTOR
ACTIVE COIL SWITCHING LOGIC
ABSOLUTE VALUE
SLOPE FORMER
DISTRIBUTOR
LOWER VCE DETECTOR
TERMINAL VOLTAGE COMPARATOR
UPPER VCE DETECTOR
EDGE DETECTOR

3-15. SUB SERVO SCHEMATIC DIAGRAM

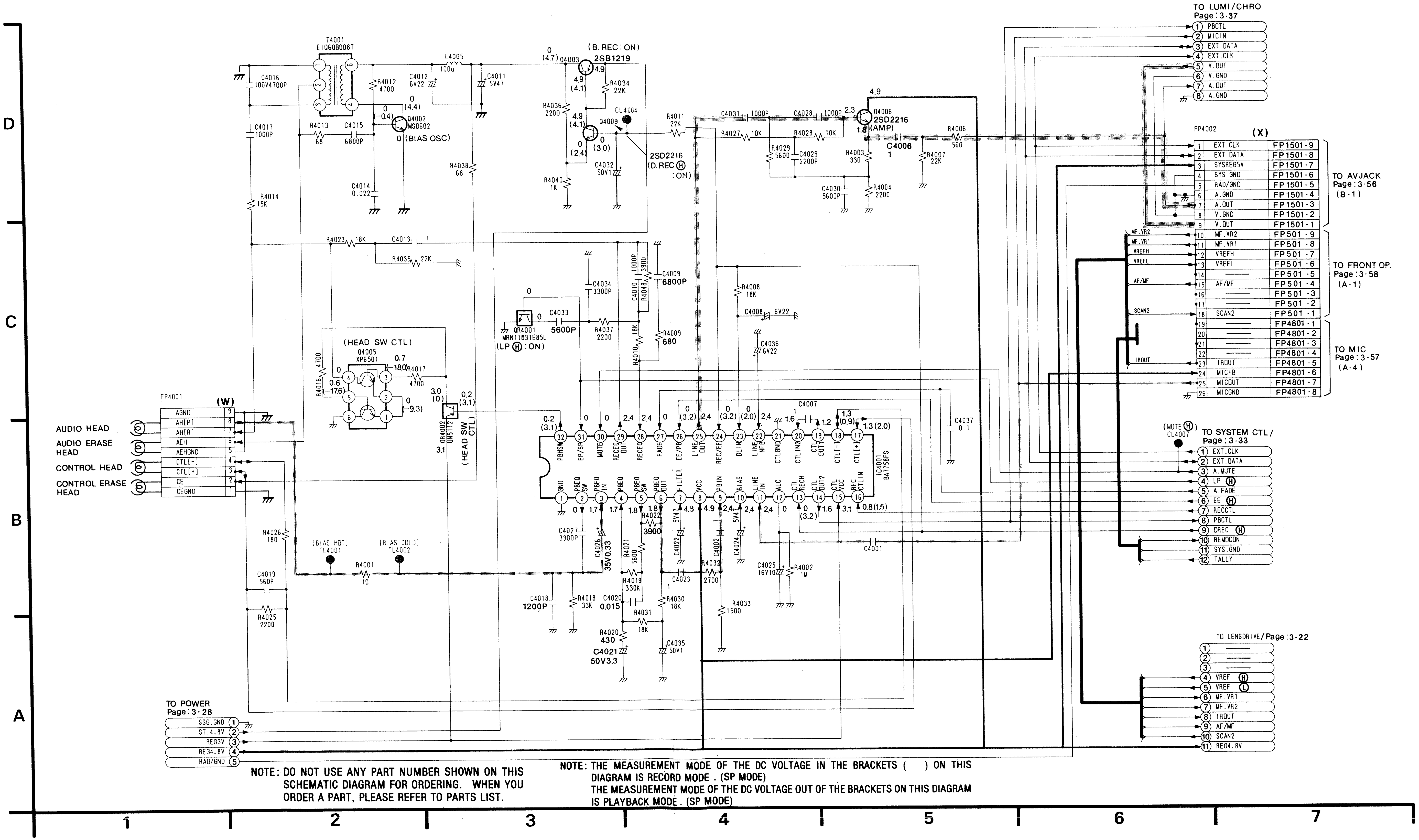

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
TO CAPSTAN MOTOR
FP2002
(K)
VMR
FG
GND
H3+
VH-
H3-
M1
H1+
VH-
H1-
M2
VH+
H2+
VH-
H2-
M3
TO POWER/
Page:3-28
SSREG3V
CAPGND
CYLGND
REG4.8V
CAPVM
NOREG
TRIWAVE
IC2001-53 REC/PLAY
560mVp-p (1.0μsec./div.)
R2018
4700
R2012 680K
QR2002
UN9215
R2010
10K
R2015 47K
R2024 100
R2022
0.33
R2016 2200
R2017 1K
C2020
0.01
C2043
0.1
C2033
0.1
C2029 0.01
C2018
6V22
C2014
16V10
C2010 0.1
R2006
470K
IC2001
TB6518F
IC2003
UN224 (CAPSTAN DRIVE)
or MDC05
IC2003-1, 3, 5 REC/PLAY
1.5Vp-p (20msec./div.)
TO SYSTEM CTL/
Page:3-33
CL2003
CAPEC
TL
CAPVS
CYLEC
CYLFG
R/S/F
CAPFG
PG
DRIVECK
CYLON
CAPSW
GND
IC2001-57 REC/PLAY
3.0Vp-p (0.5msec./div.)
IC2001-58 REC/PLAY
3.0Vp-p (0.5msec./div.)
IC2001-59 REC/PLAY
3.0Vp-p (5msec./div.)
C2009
0.1
R2004 150K
C2070 0.01
C2005 1500P
R2002
220K
R2009 560
C2004 100P
R2005 3900
C2011 100P
R2003 2200
R2001 1K
C2001 50V1
C2012 0.01
C2013 0.01
C2042 0.047
C2040 0.047
C2041 0.047
R2042 330
R2041 330
R2040 330
R2008 0.33
R2007 0.47
CL2001
CL2002
R2021 100
C2028 6.3V22
C2003 3300P
R2020 470
C2026 0.1
R2019 470
C2025 0.1
C2027 0.1
C2016 0.1
C2015 0.1
C2017 0.1
C2007 50V1
IC2002
UN224 (CYLINDER DRIVE)
or MDC05
TO CYLINDER MOTOR
FP2001
(C)
PG+
PG-
M3
M1
M2
FG+
FG-
IC2002-1, 3, 5 REC/PLAY
2.4Vp-p (1msec./div.)
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

3-16. AUDIO SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


TO LUMI/CHRO Page : 3-37
① PBCTL
② MIC IN
③ EXT.DATA
④ EXT.CLK
⑤ V.OUT
⑥ V.GND
⑦ A.OUT
⑧ A.GND
FP4002 (X)
1 EXT.CLK FP1501-9
2 EXT.DATA FP1501-8
3 SYSREG5V FP1501-7
4 SYS GND FP1501-6
5 RAD/GND FP1501-5
6 A.GND FP1501-4
7 A.OUT FP1501-3
8 V.GND FP1501-2
9 V.OUT FP1501-1
TO AVJACK Page : 3-56 (B-1)
10 MF.VR2 FP501-9
11 MF.VR1 FP501-8
12 VREFH FP501-7
13 VREFL FP501-6
14 FP501-5
15 AF/MF FP501-4
16 FP501-3
17 FP501-2
18 SCAN2 FP501-1
TO FRONT OP. Page : 3-58 (A-1)
19 FP4801-1
20 FP4801-2
21 FP4801-3
22 FP4801-4
23 IROUT FP4801-5
24 MIC+B FP4801-6
25 MICOUT FP4801-7
26 MICGND FP4801-8
TO MIC Page : 3-57 (A-4)
(MUTE Ⓗ) CL4007
TO SYSTEM CTL/ Page : 3-33
① EXT.CLK
② EXT.DATA
③ A.MUTE
④ LP Ⓗ
⑤ A.FADE
⑥ EE Ⓗ
⑦ RECCTL
⑧ PBCTL
⑨ DREC Ⓗ
⑩ REMOCON
⑪ SYS.GND
⑫ TALLY
TO LENSDRIVE/Page : 3-22
④ VREF Ⓗ
⑤ VREF Ⓛ
⑥ MF.VR1
⑦ MF.VR2
⑧ IROUT
⑨ AF/MF
⑩ SCAN2
⑪ REG4.8V
TO POWER Page : 3-28
SSG.GND ①
ST.4.8V ②
REG3V ③
REG4.8V ④
RAD/GND ⑤
FP4001 (W)
AGND 9
AH[P] 8
AH[R] 7
AEH 6
AEHGND 5
CTL[-] 4
CTL[+] 3
CE 2
CEGND 1
AUDIO HEAD
AUDIO ERASE HEAD
CONTROL HEAD
CONTROL ERASE HEAD
T4001 EIQ60B008T
L4005 100u
C4016 100V4700P
C4017 1000P
R4012 4700
C4012 6V22
C4011 5V47
R4013 68
C4015 6800P
Q4002 MSD602
(BIAS OSC)
C4014 0.022
R4038 68
R4014 15K
Q4003 2SB1219
(B.REC : ON)
R4034 22K
R4036 2200
Q4009 2SD2216 (D.REC Ⓗ : ON)
CL4004
R4040 1K
C4032 50V1
R4011 22K
C4031 1000P
C4028 1000P
R4027 10K
R4028 10K
Q4006 2SD2216 (AMP)
R4029 5600
C4029 2200P
R4003 330
C4006 1
R4006 560
R4007 22K
C4030 5600P
R4004 2200
R4023 18K
C4013 1
R4035 22K
C4034 3300P
C4010 1000P
R4048 3900
C4009 6800P
QR4001 MRN1103TE85L (LP Ⓗ : ON)
C4033 5600P
R4037 2200
R4010 18K
R4009 680
R4008 18K
C4008 6V22
C4036 6V22
(HEAD SW CTL)
Q4005 XP6501
R4016 4700
R4017 4700
QR4002 UN911Z
(HEAD SW CTL)
IC4001 BA7758FS
PBHSW EP/SP MUTE RECEQ OUT RECEQ IN FADE EE/PB LINE OUT REC/EE DLINE LINE NFB CTL GND CTL IN CTL OUT1 CTL(-) CTL(+)
GND PBEQ SW PBEQ IN PBEQ PBEQ SW PBEQ OUT FILTER VCC PBIN BIAS LINE IN ALC CTL RECH CTL OUT2 CTL VCC REC CTL IN
C4007
C4037 0.1
R4026 180
[BIAS HOT] TL4001
[BIAS COLD] TL4002
R4001 10
C4019 560P
R4025 2200
C4027 3300P
C4026 35V0.33
R4022 3900
R4021 5600
C4022 5V47
C4002 1
C4024 5V47
R4032 2700
C4023 1
C4025 16V10
R4002 1M
C4001
C4018 1200P
R4018 33K
C4020 0.015
R4019 330K
R4031 18K
R4030 18K
R4033 1500
R4020 430
C4021 50V3.3
C4035 50V1
D
C
B
A
1
2
3
4
5
6
7

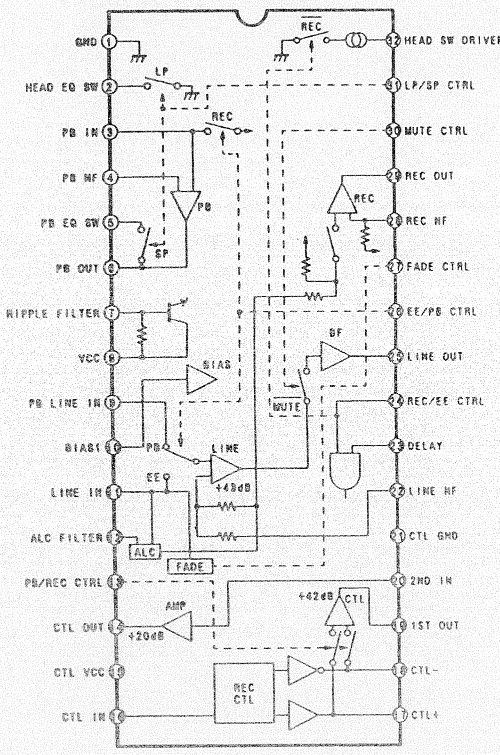
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE . (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE . (SP MODE)

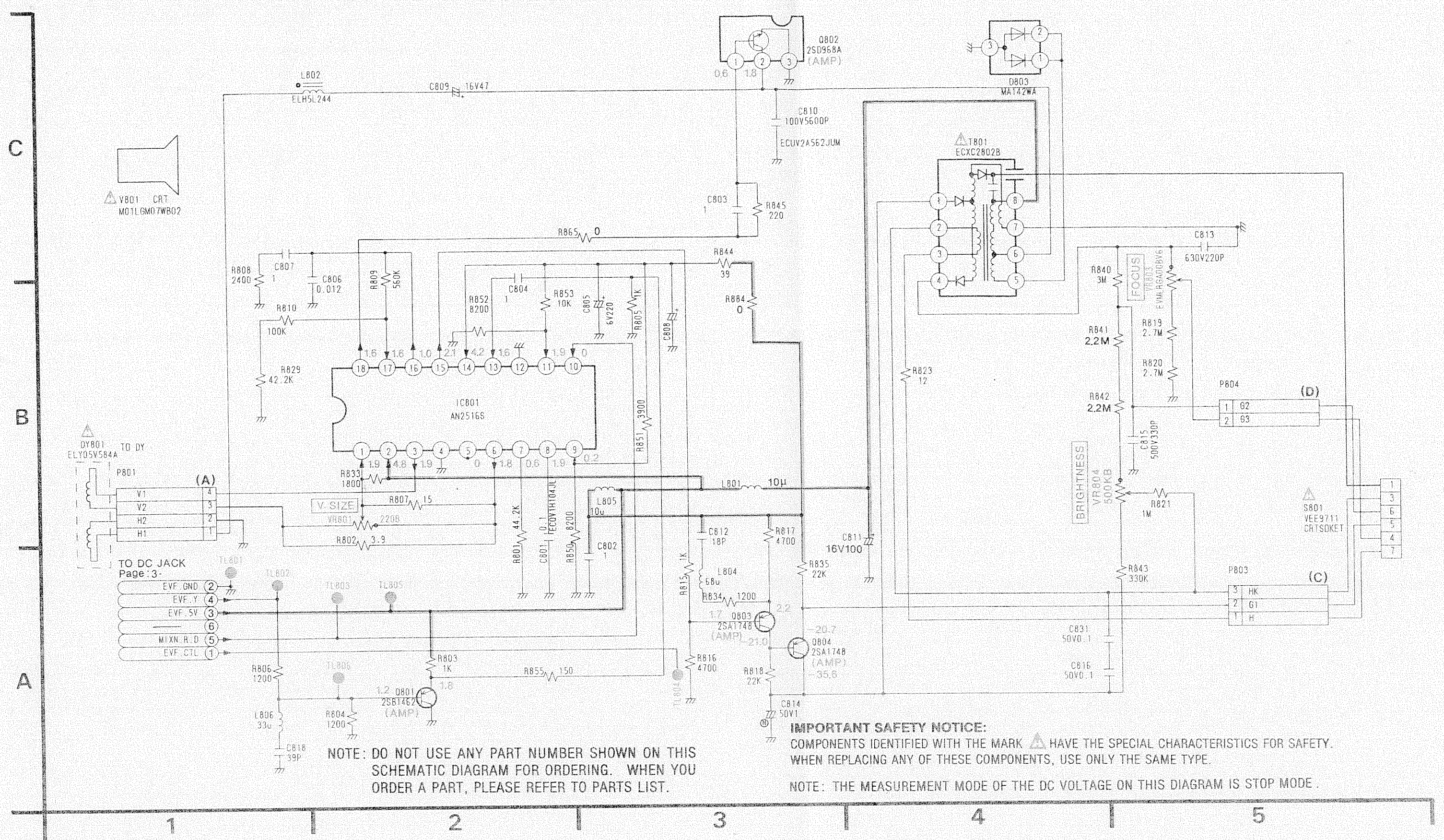
Back Page:
SUB SERVO Section

AUDIO IC BLOCK

IC4001 (BA7758FS)
(LOCATION: B-5)


GND
HEAD EQ SW
PB IN
PB NF
PB EQ SW
PB OUT
RIPPLE FILTER
VCC
PB LINE IN
BIAS1
LINE IN
ALC FILTER
PB/REC CTRL
CTL OUT
CTL VCC
CTL IN
HEAD SW DRIVER
LP/SP CTRL
MUTE CTRL
REC OUT
REC NF
FADE CTRL
EE/PB CTRL
LINE OUT
REC/EE CTRL
DELAY
LINE NF
CTL GND
2ND IN
1ST OUT
CTL-
CTL+
REC
LP
SP
PB
BIAS
MUTE
BF
LINE
+42dB
ALC
FADE
EE
AMP
+20dB
CTL
REC CTL

3-17. EVF SCHEMATIC DIAGRAM


C
B
A
1
2
3
4
5
V801 CRT M01L6M07WB02
Q802 2SD968A (AMP)
D803 MA742WA
T801 ECXC2802B
IC801 AN2516S
Q801 2SB1462 (AMP)
Q803 2SA1748 (AMP)
Q804 2SA1748 (AMP)
DY801 TO DY
P801
V.SIZE VR801
FOCUS VR803
BRIGHTNESS VR804 500KB
TO DC JACK
EVF GND
EVF Y
EVF 5V
MIXN R/D
EVF CTL
P803
P804
S801
(A)
(C)
(D)
L801 10µ
L802
L805
L806 33u
C818 39P

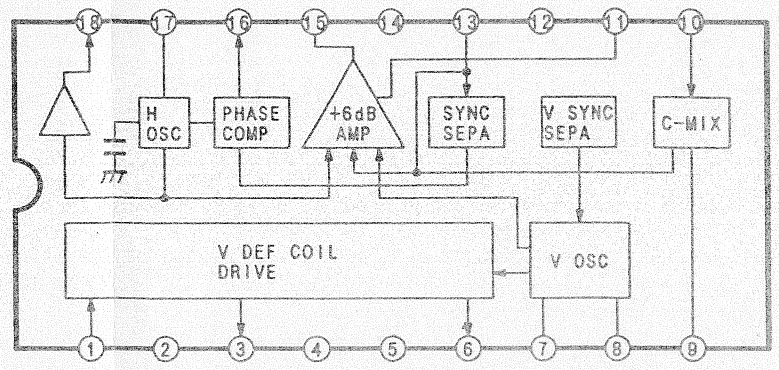
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

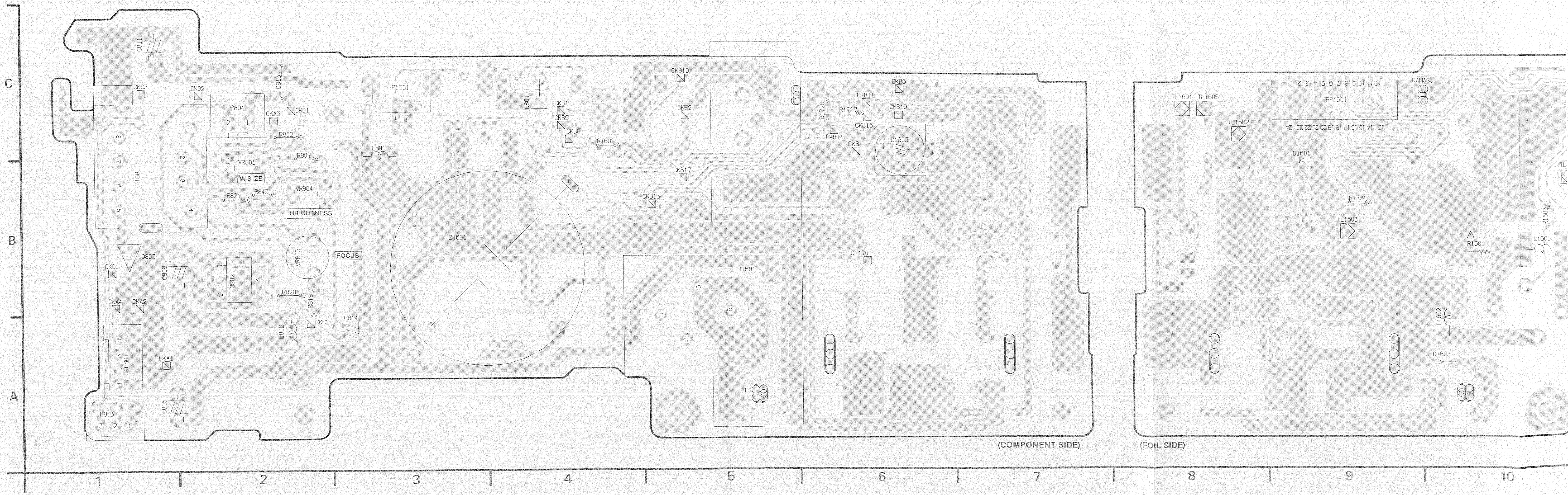
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

EVF IC BLOCK

IC801 (AN2516S)
(LOCATION: B-2)


H OSC
PHASE COMP
+6dB AMP
SYNC SEPA
V SYNC SEPA
C-MIX
V DEF COIL DRIVE
V OSC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

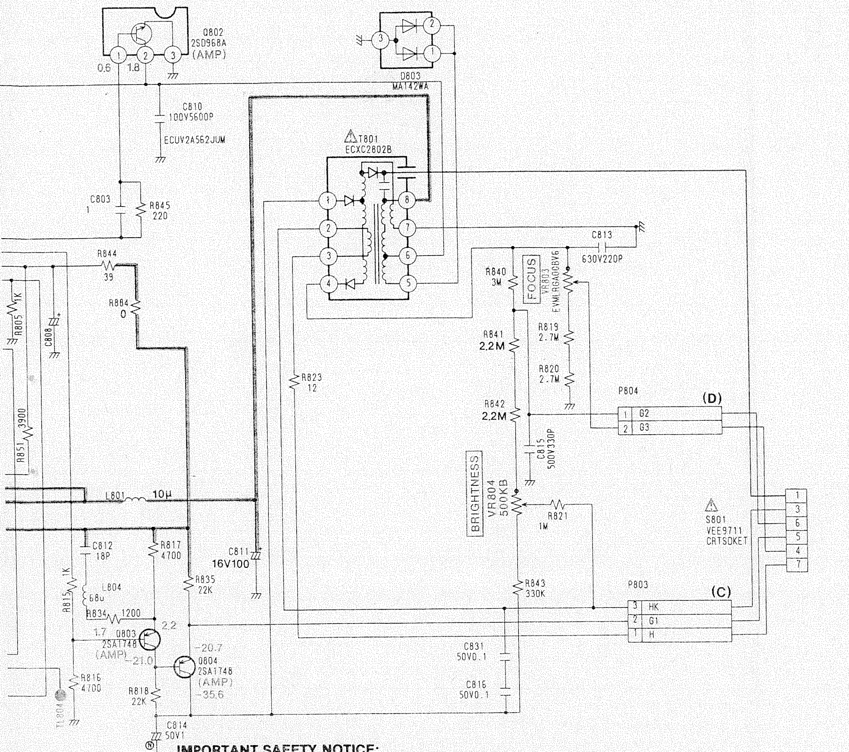
3-18. EVF & DC JACK C.B.A. (VEP28229A)


C
B
A
1
2
3
4
5
6
7
8
9
10
T801
P804
V.SIZE
VR804
BRIGHTNESS
FOCUS
Z1601
J1601
P1601
P801
P803
D803
Q802
C1603
CL1701
PP1601
KANAGU
TL1601
TL1605
TL1602
TL1603
D1601
D1603
R1601
L1601
L1602
R1724
(COMPONENT SIDE)
(FOIL SIDE)

3-19.

IMPORT
COMPONE
WHEN RE

NOTE: D


Q802
2SD968A
(AMP)
D803
MA142WA
C810
100V5600P
ECUV2A562JUM
T801
ECKC2802B
C803
R845
220
R844
39
R884
0
C813
630V220P
R840
3M
FOCUS
VR803
R841
2.2M
R819
2.7M
R820
2.7M
R842
2.2M
R823
12
P804
(D)
G2
G3
C815
500V330P
BRIGHTNESS
VR804
500KB
R821
1M
S801
VEE9711
CRTSOKET
L801
10μ
C812
18P
L804
68μ
R817
4700
R835
22K
C811
16V100
R834
1200
Q803
2SA1748
(AMP)
Q804
2SA1748
(AMP)
R843
330K
P803
(C)
HK
G1
H
C831
50V0.1
C816
50V0.1
R816
4700
R818
22K
TL804
C814
50V1

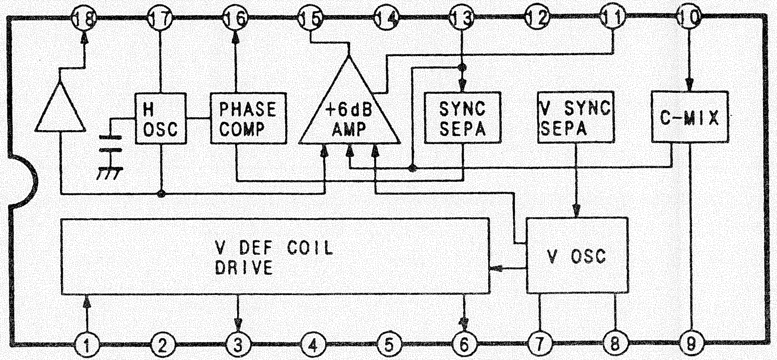
N ON THIS
WHEN YOU
; LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

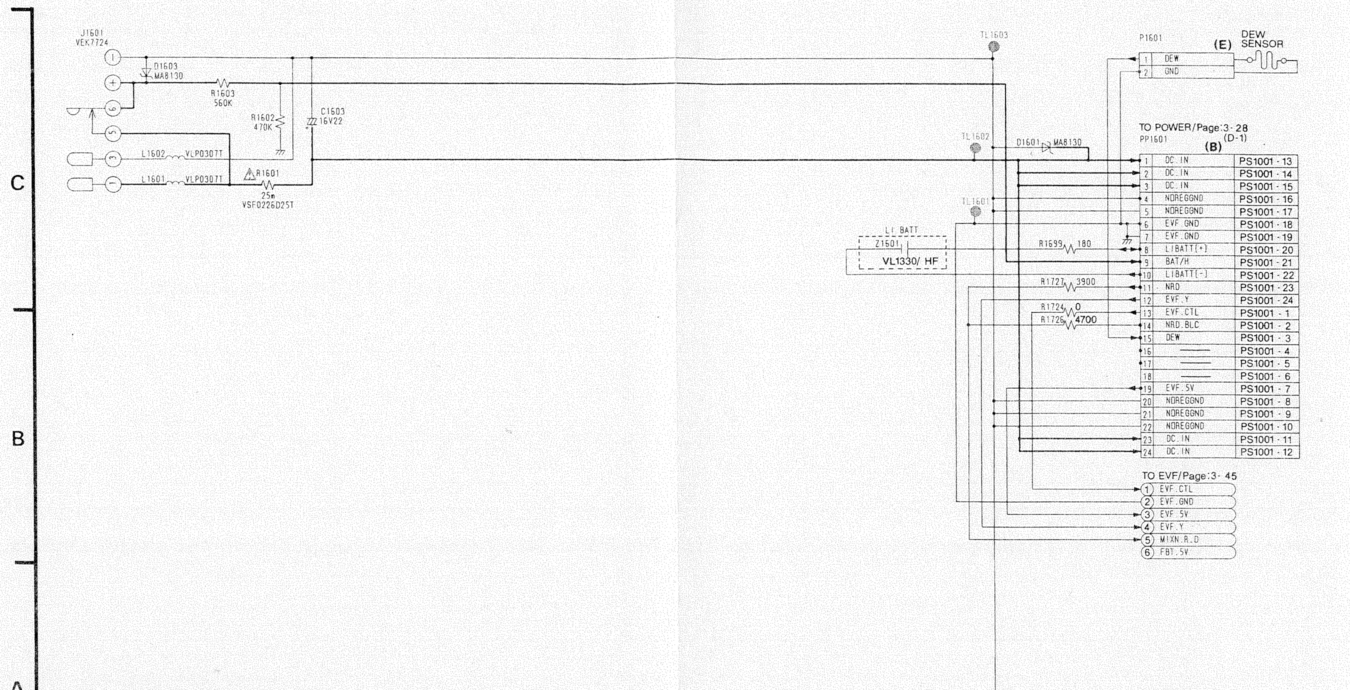
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

EVF IC BLOCK

IC801 (AN2516S)
(LOCATION: B-2)

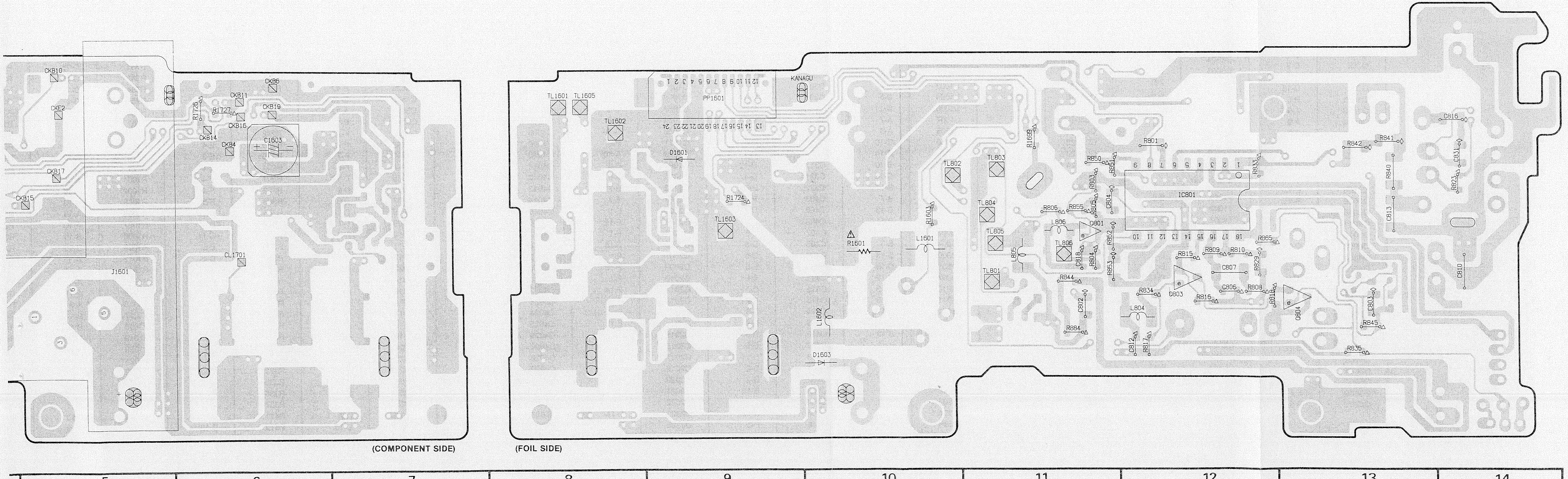

18
17
16
15
14
13
12
11
10
H OSC
PHASE COMP
+6dB AMP
SYNC SEPA
V SYNC SEPA
C-MIX
V DEF COIL DRIVE
V OSC
1
2
3
4
5
6
7
8
9

3-19. DC JACK SCHEMATIC DIAGRAM


C
B
A
J1601
VEK7724
D1603
MA8130
R1603
560K
R1602
470K
C1603
16V22
L1602
VLP0307T
L1601
VLP0307T
R1601
25m
VSF0226D25T
TL1603
TL1602
TL1601
LI BATT
Z1501
VL1330/ HF
D1601
MA8130
R1699 180
R1727 3900
R1724 0
R1726 4700
P1601
(E)
DEW SENSOR
1 DEW
2 GND
TO POWER/Page:3-28
PP1601
(B)
(D-1)
1 DC IN PS1001-13
2 DC IN PS1001-14
3 DC IN PS1001-15
4 NDREGGND PS1001-16
5 NDREGGND PS1001-17
6 EVF GND PS1001-18
7 EVF GND PS1001-19
8 LIBATT(+) PS1001-20
9 BAT/H PS1001-21
10 LIBATT(-) PS1001-22
11 NRD PS1001-23
12 EVF Y PS1001-24
13 EVF CTL PS1001-1
14 NRD BLC PS1001-2
15 DEW PS1001-3
16 PS1001-4
17 PS1001-5
18 PS1001-6
19 EVF 5V PS1001-7
20 NDREGGND PS1001-8
21 NDREGGND PS1001-9
22 NDREGGND PS1001-10
23 DC IN PS1001-11
24 DC IN PS1001-12
TO EVF/Page:3-45
① EVF CTL
② EVF GND
③ EVF 5V
④ EVF Y
⑤ MIXN R D
⑥ FBT 5V
TO CHASSIS

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


CKB10
CKE2
CKB17
CKB15
R1726
R1727
CKB11
CKB6
CKB19
CKB16
CKB14
CKB4
C1603
CL1701
J1601
(COMPONENT SIDE)
TL1601
TL1605
TL1602
PP1601
D1601
KANAGU
R1724
TL1603
R1601
L1601
L1602
D1603
R1699
R1603
TL802
TL803
TL804
TL805
TL806
TL801
L805
R806
R855
L806
Q801
R844
R884
IC801
R801
R850
R851
R833
R852
R853
R804
R805
C804
R815
R809
R810
R865
C807
C806
R808
R834
Q803
R816
Q804
L804
C812
R817
R835
R845
C803
C816
R842
R841
R840
C831
R823
C813
C810
(FOIL SIDE)
5
6
7
8
9
10
11
12
13
14

Next Page:
CAM/MAIN C.B.A. Section

CAM/MAIN C.B.A.

Integrated Circuit	
IC201	E-13
IC202	E-2
IC203	E-13
IC205	F-3
IC301	D-4
IC302	E-4
IC303	D-12
IC308	D-4
IC701	D-2
IC702	D-14
IC706	D-3
IC710	D-13
IC711	D-3
IC751	D-1
IC1001	B-10
IC2001	F-1
IC2002	E-15
IC2003	F-14
IC3001	B-4
IC4001	C-14
IC5001	B-2
IC5501	A-13
IC6001	E-9
IC6002	C-10
IC6003	E-5
IC6004	F-7
IC6005	F-7
IC6006	F-6
IC6007	D-10
IC6008	D-10
IC6009	E-11
IC6012	D-5

Transistor	
Q201	F-13
Q202	E-2
Q203	F-12
Q205	E-4
Q404	D-11
Q405	D-11
Q701	D-1
Q702	D-1
Q703	D-15
Q704	D-15
Q705	D-3
Q706	D-15
Q751	D-15
Q1001	B-9
Q1003	A-9
Q1004	A-9
Q1062	B-9
Q3001	C-12
Q3002	C-12
Q3003	C-13
Q3004	C-13
Q3008	B-13
Q3009	B-13
Q3010	C-11
Q3011	C-11
Q3012	B-13
Q4002	C-2
Q4003	C-14
Q4005	C-15
Q4006	B-14
Q4009	C-13
Q5001	A-2
Q5002	A-2
Q5003	A-3
Q5004	B-13
Q5502	B-12
Q6002	E-8
Q6004	E-8
Q6005	B-15
Q6006	E-7
Q6201	D-6

Transistor & Resistor	
QR401	E-11
QR402	E-11
QR701	D-13
QR1001	A-9
QR1061	B-11
QR2002	F-2
QR3001	B-3
QR3006	C-12
QR3007	C-13
QR3008	C-3
QR4001	C-15
QR4002	C-14
QR5502	A-5
QR5503	A-5
QR6002	D-9
QR6003	F-8
QR6004	F-9
QR6005	D-10
QR6006	D-6
QR6007	E-7
QR6010	B-14
QR6012	E-7
QR6014	D-9
QR6015	F-9
QR6050	E-7

Diode	
D202	F-2
D203	F-2
D204	E-3
D205	E-13
D481	E-11
D482	D-9
D1002	B-9
D1006	B-10
D1007	B-10
D1015	B-9
D3001	B-4
D3002	C-12
D3003	B-4
D3004	C-12
D3005	B-14
D6001	F-5
D6002	F-5
D6003	F-4
D6004	F-4
D6005	F-5
D6006	F-9
D6007	C-6
D6008	F-4
D6011	A-1
D6012	A-1
D6016	F-10
D6018	A-1
D6201	F-6

Transformer	
T1001	B-6
T1002	B-7
T4001	D-1

Test Point	
CL202	E-12
CL203	E-12
CL204	F-13
CL205	F-12
CL206	F-12
CL301	E-12
CL302	E-12
CL303	D-12
CL304	E-12
CL305	D-12
CL307	E-12
CL308	D-11
CL701	D-14
CL702	D-15
CL709	E-12
CL710	E-12
CL1001	B-11
CL1002	B-11
CL1004	C-11
CL1005	C-11
CL1006	C-11
CL1007	B-9
CL1008	A-9
CL1009	A-9
CL1010	B-9
CL1014	A-11
CL1015	C-9
CL1016	B-11
CL2001	E-14
CL2002	F-14
CL2003	E-10
CL3001	B-14
CL3004	B-12
CL3005	B-13
CL3009	B-12
CL3010	E-9
CL3011	B-14
CL3014	B-13
CL3015	B-12
CL4004	C-14
CL4007	C-14
CL5001	B-14
CL5002	A-11
CL5003	B-11
CL5012	B-13
CL5501	A-13
CL5502	B-12
CL5503	B-12
CL5504	B-12
CL6001	D-9
CL6002	D-9
CL6003	E-10
CL6004	D-10
CL6005	D-10
CL6006	D-9
CL6007	D-10
CL6008	D-9
CL6009	D-9
CL6010	F-10
CL6011	D-10
CL6012	D-10
CL6013	F-9
CL6014	E-9
CL6015	E-10
CL6016	D-10
CL6017	D-9
CL6018	D-10
CL6019	D-9
CL6020	D-10
CL6021	E-9
CL6022	D-9
CL6023	D-9
CL6024	E-9
CL6025	F-9
CL6026	F-9
CL6204	C-10
CL6205	D-9
CL6206	E-10
CL6207	E-10
CL6208	E-10
CL6010	E-10
CL6011	E-10
CL6018	D-10
CL6020	D-10
TL301	D-12
TL1001	B-9
TL3003	B-12
TL4001	C-15
TL4002	C-15
TL5001	B-14
TL5002	B-14
TL5005	A-13

Adjustment	
VC308	C-12

Connector	
FP701	D-15
FP2001	C-1
FP2002	E-15
FP4001	C-15
FP4002	B-15
FP5001	A-14
FP6001	F-9
FP6002	F-10
FP6006	F-12
P302	F-13
PP201	F-14
PP401	E-11
PP3001	A-15
PS1001	B-8

Crystal Oscillator	
X301	D-4
X701	D-3
X5501	A-4
X6001	D-7
X6002	D-7

Filter	
FL201	F-4

Coil	
L201	F-4
L202	F-3
L203	E-3
L204	F-3
L206	E-2
L207	E-3
L208	F-3
L212	E-3
L302	E-12
L303	E-12
L402	E-12
L403	D-11
L404	D-5
L701	E-3
L702	E-2
L703	E-14
L704	D-13
L705	F-3
L708	F-3
L1001	A-7
L1002	B-6
L1003	B-6
L1004	B-6
L1006	B-11
L1007	A-7
L1008	A-6
L1010	C-10
L1011	C-10
L1012	B-10
L1014	C-10
L1015	B-11
L1062	B-7
L3001	B-13
L3002	B-11
L3003	B-3
L3004	B-3
L3005	C-13
L3006	C-13
L3007	C-12
L3010	C-13
L3011	C-13
L3021	C-11
L4005	D-14
L5001	B-13
L5002	B-13
L5003	B-13
L5004	B-3
L5501	B-12
L5502	A-11
L5503	B-12
L5504	B-12
L5506	A-3
L5507	B-12
L5508	B-12
L6002	E-10
LB209	E-14
LB210	E-14
LB211	E-14
LB213	E-3
LB301	D-6
LB307	C-4
LB308	E-12
LB406	E-12

Capacitor	
C201	E-3
C202	E-3
C203	F-3
C204	F-3
C205	E-12
C206	F-13
C207	E-13
C208	E-13
C209	E-13
C210	E-3
C211	E-3
C212	E-13
C213	E-3
C214	E-3
C218	E-3
C219	E-12
C220	E-3
C221	F-2
C222	E-3
C223	F-3
C224	F-2
C225	E-3
C226	F-2
C227	F-13
C228	F-13
C229	F-2
C230	E-12
C231	F-2
C232	F-2
C234	E-2
C235	E-14
C236	E-2
C238	E-3
C240	E-14
C302	E-12
C304	F-5
C306	C-12
C307	D-11
C308	F-4
C309	E-12
C310	D-4
C311	F-4
C313	D-4
C317	D-12
C321	D-4
C322	E-5
C403	E-5
C405	D-5
C406	E-5
C407	E-5
C408	D-6
C409	D-5
C410	E-5
C411	D-6
C412	D-11
C413	D-11
C414	E-5
C415	E-4
C416	D-6
C417	D-5
C418	D-11
C701	D-2
C702	D-2
C703	E-12
C704	E-13
C705	E-13
C706	F-3
C707	F-3
C708	C-13
C709	C-12
C710	D-2
C711	D-2
C712	C-13
C713	D-14
C714	D-13
C715	D-3
C716	D-13
C718	D-2
C719	D-3
C720	D-3
C721	C-4
C722	C-3
C724	D-2
C751	C-15
C752	D-1
C753	D-1
C1002	B-7
C1003	B-6
C1004	B-10
C1005	C-5
C1008	A-6
C1009	A-10
C1010	B-5
C1012	A-9
C1014	B-10
C1017	B-9
C1019	C-10
C1020	B-10
C1022	C-10
C1024	A-11
C1025	B-11
C1026	B-5
C1027	A-5
C1028	B-5
C1029	B-11
C1030	B-11
C1031	B-10
C1032	B-11
C1033	B-10
C1034	B-10
C1035	A-10
C1036	A-10
C1037	A-10
C1040	A-9
C1041	B-8
C1042	B-11
C1051	B-5
C1055	B-6
C1057	C-5
C1064	C-6
C1066	B-10
C1071	B-9
C1073	A-10
C1080	B-6
C1081	A-6
C1112	B-7
C2001	E-1
C2002	E-1
C2003	E-15
C2004	F-1
C2005	F-15
C2007	E-1
C2009	F-15
C2010	F-1
C2011	F-14
C2012	F-1
C2013	F-1
C2014	E-1
C2015	E-14
C2016	E-15
C2017	E-14
C2018	E-2
C2020	F-2
C2021	F-14
C2022	E-14
C2023	F-14
C2025	F-15
C2026	F-14
C2027	F-14
C2028	E-2
C2029	F-1
C2033	F-15
C2040	E-14
C2041	E-14
C2042	E-14
C2043	F-14
C2070	F-15
C3001	B-13
C3002	B-12
C3003	B-13
C3004	B-12
C3005	B-5
C3006	B-12
C3007	B-12
C3008	B-3
C3010	B-3
C3011	C-13
C3012	B-3
C3013	C-12
C3014	C-13
C3016	C-13
C3017	C-13
C3018	B-13
C3019	B-3
C3020	B-3
C3021	B-3
C3022	B-3
C3023	B-3
C3024	C-4
C3026	C-4
C3027	B-13
C3028	C-4
C3029	B-12
C3032	C-5
C3033	C-11
C3034	B-5
C3035	B-5
C3036	C-4
C3037	C-4
C3038	B-5
C3048	B-3
C3049	B-3
C3050	A-3
C3051	A-3
C3052	A-3
C3053	B-13
C4001	C-14
C4002	C-14
C4006	B-14
C4007	C-14
C4008	B-2
C4009	C-14
C4010	C-14
C4011	C-2
C4012	D-2
C4013	C-15
C4014	C-1
C4015	C-1
C4016	C-1
C4017	C-1
C4018	C-14
C4019	C-1
C4020	D-14
C4021	C-2
C4022	C-2
C4023	D-14
C4024	C-1
C4025	C-2
C4026	C-14
C4027	C-14
C4028	B-14
C4029	B-13
C4030	B-14
C4031	C-14
C4032	B-2
C4033	C-15
C4034	C-15
C4035	D-2
C4036	C-2
C4037	C-14
C5001	A-2
C5002	A-2
C5003	A-2
C5004	A-2
C5005	A-2
C5006	A-2
C5007	A-2
C5008	A-2
C5009	B-3
C5010	A-2
C5011	B-2
C5012	B-3
C5013	B-14
C5014	B-14
C5016	B-14
C5017	B-2
C5018	B-3
C5019	B-2
C5020	B-2
C5021	B-3
C5022	A-3
C5023	B-2
C5041	B-14
C5501	B-11
C5502	B-11
C5504	A-3
C5506	A-3
C5508	A-4
C5509	A-3
C5510	A-10
C5511	B-12
C5512	A-11
C5513	B-12
C5514	A-4
C5515	A-12
C5516	B-11
C5517	A-4
C5518	A-4
C5519	B-12
C5520	B-12
C5521	B-12
C5522	A-12
C5523	B-12
C5524	A-4
C5526	B-12
C5527	B-12
C5528	B-12
C5530	B-13
C5531	A-13
C5540	B-13
C6001	F-7
C6002	F-7
C6003	F-7
C6004	F-6
C6005	D-10
C6006	D-9
C6007	D-9
C6008	C-10
C6009	F-7
C6010	E-7
C6011	C-9
C6012	D-7
C6013	D-7
C6014	E-6
C6015	F-6
C6016	E-8
C6017	E-10
C6018	D-6
C6019	E-6
C6020	D-9
C6022	A-1
C6023	A-1
C6025	E-6
C6027	E-7
C6030	E-7
C6031	D-7
C6032	D-10
C6036	A-1
C6038	D-10
C6039	F-6
C6040	F-6
C6046	E-7
C6047	E-7
C6048	E-7
C6060	E-8
C6061	C-7
C6100	A-1
C6201	D-10
C6202	D-10
C6203	E-6
C6204	E-10
C6205	E-6
C6206	E-6
C6207	E-6
C6208	E-10
C6209	E-6
C6210	E-10

Resistor	
R201	E-12
R202	F-12
R203	F-2
R204	F-13
R206	F-13
R207	E-4
R208	E-4
R210	F-13
R214	E-13
R215	F-3
R216	F-3
R217	E-3
R218	E-3
R219	F-13
R220	F-13
R221	F-3
R222	E-2
R223	E-2
R224	E-3
R225	E-3
R226	E-13
R227	F-13
R228	E-4
R236	E-4
R239	F-4
R240	F-13
R241	E-13
R242	E-4
R243	E-3
R246	E-3
R247	E-14
R248	E-14
R249	E-4
R250	E-3
R251	E-4
R301	F-4
R302	F-4
R303	F-5
R304	C-12
R305	E-4
R306	C-11
R307	E-5
R308	D-4
R310	E-4
R312	E-4
R313	D-12
R314	D-12
R315	D-12
R321	C-12
R323	D-11
R325	E-4
R327	D-4
R333	E-12
R335	D-12
R336	E-4
R337	E-6
R411	D-12
R412	D-12
R413	D-12
R415	E-11
R417	D-5
R418	D-5
R419	D-5
R420	D-5
R422	D-5
R423	D-11
R424	D-11
R425	D-11
R426	D-11
R428	D-11
R429	D-11
R430	D-11
R481	D-11
R701	D-2
R702	D-2
R703	D-14
R704	D-14
R705	D-12
R706	D-12
R707	D-13
R708	D-13
R709	D-13
R716	D-3
R717	C-4
R718	D-3
R719	C-4
R720	C-3
R721	C-3
R722	C-3
R723	C-3
R724	D-3
R725	D-3
R726	D-3
R727	D-3
R728	D-3
R729	D-3
R730	D-3
R732	D-3
R733	D-4
R734	D-3
R735	D-3
R736	D-4
R737	D-4
R738	D-4
R740	D-4
R751	D-15
R753	C-15
R754	D-1
R755	D-1
R756	D-12
R757	C-13
R758	C-13
R761	D-3
R770	C-12
R771	C-13
R1001	B-10
R1002	B-10
R1005	A-10
R1006	A-10
R1007	A-10
R1008	B-10
R1009	B-10
R1012	A-11
R1013	A-11
R1014	A-11
R1015	A-11
R1016	A-5
R1017	B-11
R1018	B-11
R1019	B-11
R1020	B-11
R1021	B-10
R1022	A-10
R1023	A-10
R1024	A-11
R1025	A-11
R1035	A-10
R1038	B-10
R1039	
R1040	
R1051	
R1052	
R1063	
R1065	
R1071	
R1072	
R1073	
R1080	
R1085	
R1086	
R2001	
R2002	
R2003	
R2004	
R2005	
R2006	
R2007	
R2008	
R2009	
R2010	
R2012	
R2015	
R2016	
R2017	
R2018	
R2019	
R2020	
R2021	
R2022	
R2024	
R2040	
R2041	
R2042	
R3001	
R3002	
R3003	
R3004	
R3005	
R3007	
R3008	
R3009	
R3010	
R3012	
R3013	
R3014	
R3017	
R3018	
R3020	
R3021	
R3022	
R3023	
R3025	
R3026	
R3027	
R3031	
R3032	
R3034	
R3042	
R3049	
R3051	
R3052	
R3057	
R3058	
R3059	
R3060	
R3063	
R3070	
R4001	
R4002	
R4003	
R4004	
R4006	
R4007	
R4008	
R4009	
R4010	
R4011	
R4012	

ADDRESS INFORMATION

CAM/MAIN C.B.A.

ctor

01	D-15
001	C-1
002	E-15
001	C-15
002	B-15
001	A-14
001	F-9
002	F-10
006	F-12
2	F-13
01	F-14
01	E-11
001	A-15
001	B-8

l Oscillator

1	D-4
1	D-3
01	A-4
01	D-7
02	D-7

01	F-4

1	F-4
2	F-3
3	E-3
4	F-3
5	E-2
7	E-3
3	F-3
2	E-3
2	E-12
3	E-12
2	E-12
3	D-11
4	D-5
1	E-3
2	E-2
3	E-14
4	D-13
5	F-3
1	F-3
11	A-7
12	B-6
13	B-6
14	B-6
16	B-11
17	A-7
18	A-6
0	C-10
1	C-10
2	B-10
4	C-10
5	B-11
52	B-7
11	B-13
12	B-11
13	B-3
14	B-3
15	C-13
16	C-13
17	C-12
0	C-13
1	C-13
1	C-11
5	D-14
1	B-13
2	B-13
3	B-13
4	B-3
1	B-12
2	A-11
3	B-12
4	B-12
6	A-3
L5507	B-12
L5508	B-12
L6002	E-10
LB209	E-14
LB210	E-14
LB211	E-14
LB213	E-3
LB301	D-6
LB307	C-4
LB308	E-12
LB406	E-12

Capacitor

C201	E-3
C202	E-3
C203	F-3
C204	F-3
C205	E-12
C206	F-13
C207	E-13
C208	E-13
C209	E-13
C210	E-3
C211	E-3
C212	E-13
C213	E-3
C214	E-3
C218	E-3
C219	E-12
C220	E-3
C221	F-2
C222	E-3
C223	F-3
C224	F-2
C225	E-3
C226	F-2
C227	F-13
C228	F-13
C229	F-2
C230	E-12
C231	F-2
C232	F-2
C234	E-2
C235	E-14
C236	E-2
C238	E-3
C240	E-14
C302	E-12
C304	F-5
C306	C-12
C307	D-11
C308	F-4
C309	E-12
C310	D-4
C311	F-4
C313	D-4
C317	D-12
C321	D-4
C322	E-5
C403	E-5
C405	D-5
C406	E-5
C407	E-5
C408	D-6
C409	D-5
C410	E-5
C411	D-6
C412	D-11
C413	D-11
C414	E-5
C415	E-4
C416	D-6
C417	D-5
C418	D-11
C701	D-2
C702	D-2
C703	E-12
C704	E-13
C705	E-13
C706	F-3
C707	F-3
C708	C-13
C709	C-12
C710	D-2
C711	D-2
C712	C-13
C713	D-14
C714	D-13
C715	D-3
C716	D-13
C718	D-2
C719	D-3
C720	D-3
C721	C-4
C722	C-3
C724	D-2
C751	C-15
C752	D-1
C753	D-1
C1002	B-7
C1003	B-6
C1004	B-10
C1005	C-5
C1008	A-6
C1009	A-10
C1010	B-5
C1012	A-9
C1014	B-10
C1017	B-9
C1019	C-10
C1020	B-10
C1022	C-10
C1024	A-11
C1025	B-11
C1026	B-5
C1027	A-5
C1028	B-5
C1029	B-11
C1030	B-11
C1031	B-10
C1032	B-11
C1033	B-10
C1034	B-10
C1035	A-10
C1036	A-10
C1037	A-10
C1040	A-9
C1041	B-8
C1042	B-11
C1051	B-5
C1055	B-6
C1057	C-5
C1064	C-6
C1066	B-10
C1071	B-9
C1073	A-10
C1080	B-6
C1081	A-6
C1112	B-7
C2001	E-1
C2002	E-1
C2003	E-15
C2004	F-1
C2005	F-15
C2007	E-1
C2009	F-15
C2010	F-1
C2011	F-14
C2012	F-1
C2013	F-1
C2014	E-1
C2015	E-14
C2016	E-15
C2017	E-14
C2018	E-2
C2020	F-2
C2021	F-14
C2022	E-14
C2023	F-14
C2025	F-15
C2026	F-14
C2027	F-14
C2028	E-2
C2029	F-1
C2033	F-15
C2040	E-14
C2041	E-14
C2042	E-14
C2043	F-14
C2070	F-15
C3001	B-13
C3002	B-12
C3003	B-13
C3004	B-12
C3005	B-5
C3006	B-12
C3007	B-12
C3008	B-3
C3010	B-3
C3011	C-13
C3012	B-3
C3013	C-12
C3014	C-13
C3016	C-13
C3017	C-13
C3018	B-13
C3019	B-3
C3020	B-3
C3021	B-3
C3022	B-3
C3023	B-3
C3024	C-4
C3026	C-4
C3027	B-13
C3028	C-4
C3029	B-12
C3032	C-5
C3033	C-11
C3034	B-5
C3035	B-5
C3036	C-4
C3037	C-4
C3038	B-5
C3048	B-3
C3049	B-3
C3050	A-3
C3051	A-3
C3052	A-3
C3053	B-13
C4001	C-14
C4002	C-14
C4006	B-14
C4007	C-14
C4008	B-2
C4009	C-14
C4010	C-14
C4011	C-2
C4012	D-2
C4013	C-15
C4014	C-1
C4015	C-1
C4016	C-1
C4017	C-1
C4018	C-14
C4019	C-1
C4020	D-14
C4021	C-2
C4022	C-2
C4023	D-14
C4024	C-1
C4025	C-2
C4026	C-14
C4027	C-14
C4028	B-14
C4029	B-13
C4030	B-14
C4031	C-14
C4032	B-2
C4033	C-15
C4034	C-15
C4035	D-2
C4036	C-2
C4037	C-14
C5001	A-2
C5002	A-2
C5003	A-2
C5004	A-2
C5005	A-2
C5006	A-2
C5007	A-2
C5008	A-2
C5009	B-3
C5010	A-2
C5011	B-2
C5012	B-3
C5013	B-14
C5014	B-14
C5016	B-14
C5017	B-2
C5018	B-3
C5019	B-2
C5020	B-2
C5021	B-3
C5022	A-3
C5023	B-2
C5041	B-14
C5501	B-11
C5502	B-11
C5504	A-3
C5506	A-3
C5508	A-4
C5509	A-3
C5510	A-10
C5511	B-12
C5512	A-11
C5513	B-12
C5514	A-4
C5515	A-12
C5516	B-11
C5517	A-4
C5518	A-4
C5519	B-12
C5520	B-12
C5521	B-12
C5522	A-12
C5523	B-12
C5524	A-4
C5526	B-12
C5527	B-12
C5528	B-12
C5530	B-13
C5531	A-13
C5540	B-13
C6001	F-7
C6002	F-7
C6003	F-7
C6004	F-6
C6005	D-10
C6006	D-9
C6007	D-9
C6008	C-10
C6009	F-7
C6010	E-7
C6011	C-9
C6012	D-7
C6013	D-7
C6014	E-6
C6015	F-6
C6016	E-8
C6017	E-10
C6018	D-6
C6019	E-6
C6020	D-9
C6022	A-1
C6023	A-1
C6025	E-6
C6027	E-7
C6030	E-7
C6031	D-7
C6032	D-10
C6036	A-1
C6038	D-10
C6039	F-6
C6040	F-6
C6046	E-7
C6047	E-7
C6048	E-7
C6060	E-8
C6061	C-7
C6100	A-1
C6201	D-10
C6202	D-10
C6203	E-6
C6204	E-10
C6205	E-6
C6206	E-6
C6207	E-6
C6208	E-10
C6209	E-6
C6210	E-10

Resistor

R201	E-12
R202	F-12
R203	F-2
R204	F-13
R206	F-13
R207	E-4
R208	E-4
R210	F-13
R214	E-13
R215	F-3
R216	F-3
R217	E-3
R218	E-3
R219	F-13
R220	F-13
R221	F-3
R222	E-2
R223	E-2
R224	E-3
R225	E-3
R226	E-13
R227	F-13
R228	E-4
R236	E-4
R239	F-4
R240	F-13
R241	E-13
R242	E-4
R243	E-3
R246	E-3
R247	E-14
R248	E-14
R249	E-4
R250	E-3
R251	E-4
R301	F-4
R302	F-4
R303	F-5
R304	C-12
R305	E-4
R306	C-11
R307	E-5
R308	D-4
R310	E-4
R312	E-4
R313	D-12
R314	D-12
R315	D-12
R321	C-12
R323	D-11
R325	E-4
R327	D-4
R333	E-12
R335	D-12
R336	E-4
R337	E-6
R411	D-12
R412	D-12
R413	D-12
R415	E-11
R417	D-5
R418	D-5
R419	D-5
R420	D-5
R422	D-5
R423	D-11
R424	D-11
R425	D-11
R426	D-11
R428	D-11
R429	D-11
R430	D-11
R481	D-11
R701	D-2
R702	D-2
R703	D-14
R704	D-14
R705	D-12
R706	D-12
R707	D-13
R708	D-13
R709	D-13
R716	D-3
R717	C-4
R718	D-3
R719	C-4
R720	C-3
R721	C-3
R722	C-3
R723	C-3
R724	D-3
R725	D-3
R726	D-3
R727	D-3
R728	D-3
R729	D-3
R730	D-3
R732	D-3
R733	D-4
R734	D-3
R735	D-3
R736	D-4
R737	D-4
R738	D-4
R740	D-4
R751	D-15
R753	C-15
R754	D-1
R755	D-1
R756	D-12
R757	C-13
R758	C-13
R761	D-3
R770	C-12
R771	C-13
R1001	B-10
R1002	B-10
R1005	A-10
R1006	A-10
R1007	A-10
R1008	B-10
R1009	B-10
R1012	A-11
R1013	A-11
R1014	A-11
R1015	A-11
R1016	A-5
R1017	B-11
R1018	B-11
R1019	B-11
R1020	B-11
R1021	B-10
R1022	A-10
R1023	A-10
R1024	A-11
R1025	A-11
R1035	A-10
R1038	B-10
R1039	A-10
R1040	B-10
R1051	B-5
R1052	B-5
R1063	B-11
R1065	B-9
R1071	B-10
R1072	B-10
R1073	B-10
R1080	B-7
R1085	B-5
R1086	B-6
R2001	E-1
R2002	F-1
R2003	F-1
R2004	F-15
R2005	F-15
R2006	F-14
R2007	E-1
R2008	E-1
R2009	F-1
R2010	F-14
R2012	F-2
R2015	F-2
R2016	F-2
R2017	E-14
R2018	E-2
R2019	E-15
R2020	F-15
R2021	E-14
R2022	F-14
R2024	F-2
R2040	E-14
R2041	E-14
R2042	E-14
R3001	B-12
R3002	B-13
R3003	B-13
R3004	B-12
R3005	B-12
R3007	B-12
R3008	C-13
R3009	C-13
R3010	B-3
R3012	B-13
R3013	B-3
R3014	C-13
R3017	B-3
R3018	B-12
R3020	C-13
R3021	B-4
R3022	C-13
R3023	B-13
R3025	C-13
R3026	C-13
R3027	C-12
R3031	B-4
R3032	B-4
R3034	B-5
R3042	C-3
R3049	A-13
R3051	A-3
R3052	A-3
R3057	C-11
R3058	C-11
R3059	C-12
R3060	C-4
R3063	C-11
R3070	C-3
R4001	C-14
R4002	C-13
R4003	B-14
R4004	B-14
R4006	B-14
R4007	B-14
R4008	C-14
R4009	C-14
R4010	C-14
R4011	C-14
R4012	C-1
R4013	C-1
R4014	C-1
R4016	C-14
R4017	C-14
R4018	C-14
R4019	D-14
R4020	C-14
R4021	D-14
R4022	D-14
R4023	C-15
R4025	C-1
R4026	C-1
R4027	C-14
R4028	B-13
R4029	B-14
R4030	C-14
R4031	C-14
R4032	D-13
R4033	D-13
R4034	C-13
R4035	C-15
R4036	C-13
R4037	B-14
R4038	C-1
R4040	C-13
R4048	C-14
R5001	B-14
R5002	A-3
R5003	A-2
R5004	B-14
R5005	B-3
R5007	A-3
R5008	A-3
R5009	B-14
R5012	B-14
R5501	B-11
R5503	B-11
R5504	B-11
R5507	B-12
R5509	A-5
R5510	A-11
R5512	B-11
R5514	B-12
R5515	B-11
R5516	B-12
R5517	B-11
R5520	A-3
R5550	B-12
R6001	F-5
R6002	D-10
R6003	E-10
R6004	E-10
R6005	D-10
R6006	C-7
R6007	D-10
R6008	D-9
R6009	C-10
R6010	E-10
R6011	F-4
R6013	F-6
R6014	F-6
R6015	F-6
R6016	F-6
R6018	F-4
R6019	F-6
R6020	F-6
R6021	E-9
R6022	E-8
R6023	F-6
R6024	E-7
R6027	F-5
R6029	E-7
R6030	D-9
R6031	D-10
R6032	D-9
R6034	A-1
R6035	D-10
R6037	D-8
R6038	C-10
R6039	D-7
R6040	E-6
R6042	E-6
R6043	E-6
R6044	E-6
R6045	E-6
R6046	F-9
R6049	D-10
R6055	E-7
R6056	E-10
R6058	C-9
R6059	F-9
R6064	F-10
R6065	F-10
R6066	E-6
R6067	F-8
R6068	F-7
R6069	F-7
R6070	A-1
R6071	A-1
R6072	B-15
R6073	A-1
R6074	B-15
R6075	B-14
R6076	B-15
R6079	B-15
R6080	E-6
R6082	E-10
R6085	E-7
R6086	E-7
R6087	D-9
R6088	E-9
R6089	E-10
R6090	B-14
R6091	A-1
R6095	F-10
R6201	D-10
R6202	D-6
R6203	D-10
R6204	E-11
R6205	E-11
R6206	D-6
R6207	D-6
R6208	E-6
R6209	E-11
R6210	D-6
R6211	F-7

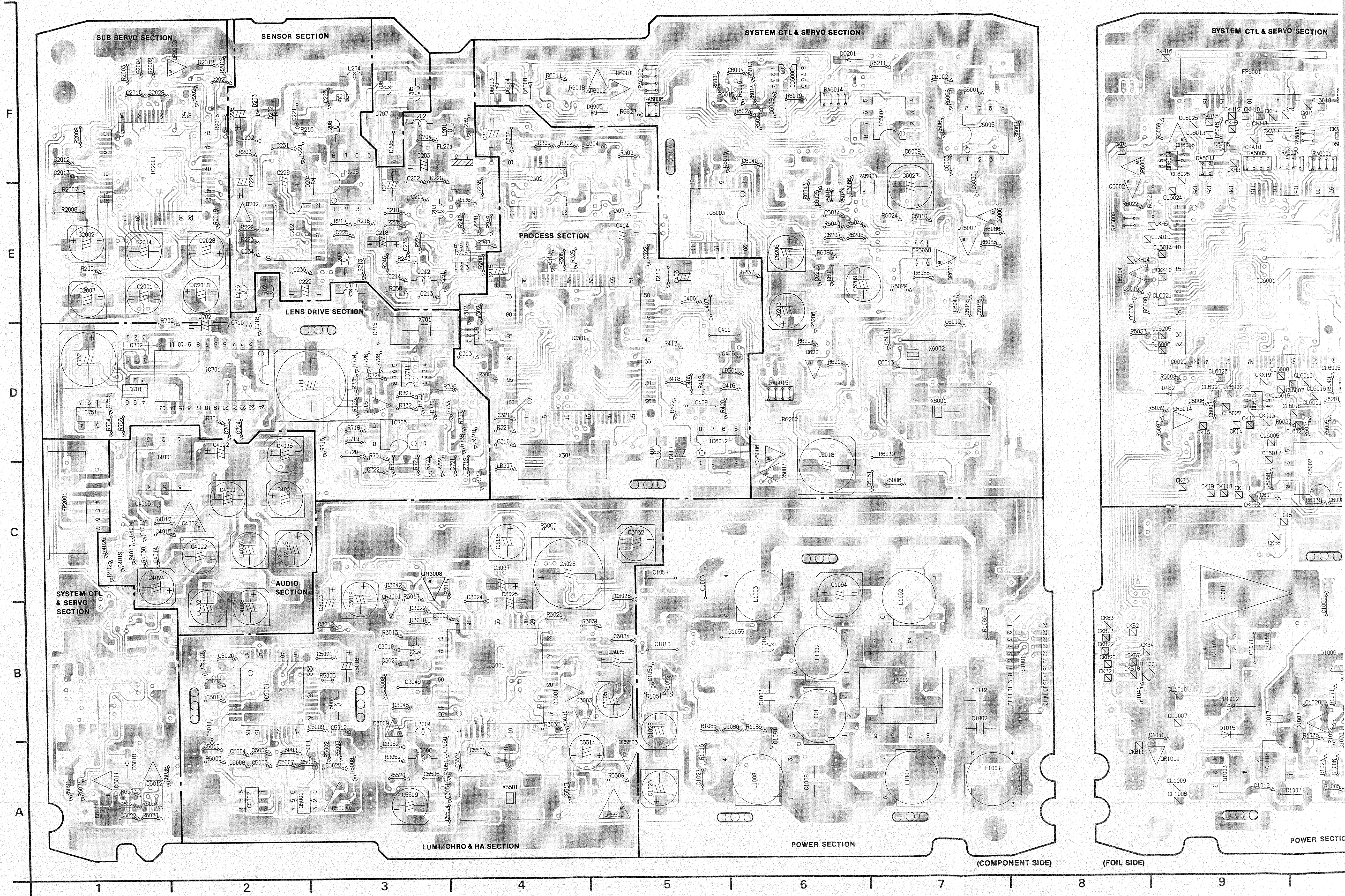
Resistor Array

RA6001	F-10
RA6002	F-5
RA6003	F-10
RA6004	F-10
RA6005	F-9
RA6006	F-5
RA6007	E-7
RA6008	E-8
RA6009	D-10
RA6010	D-10
RA6011	F-9
RA6013	D-10
RA6014	F-6
RA6015	D-6

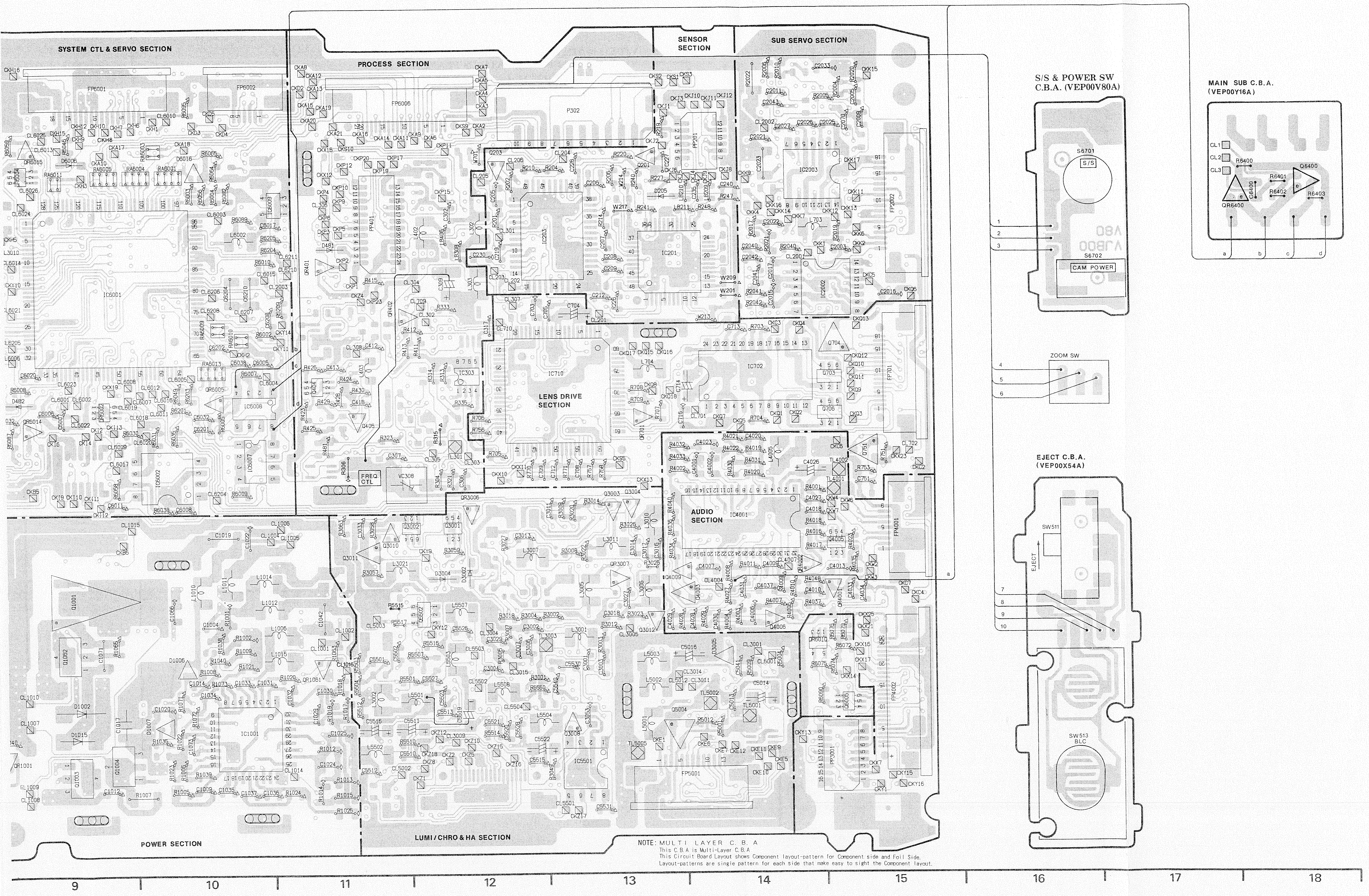
Wire

W201	E-14
W209	E-14
W213	E-14
W214	F-13
W217	E-13
W302	E-4
W701	F-12

3-20. CAMERA/MAIN [SENSOR, PROCESS, LENS DRIVE, POWER, SYSTEM CONTROL & SERVO, SUB SERVO, LUMINANCE/CHROMINANCE &

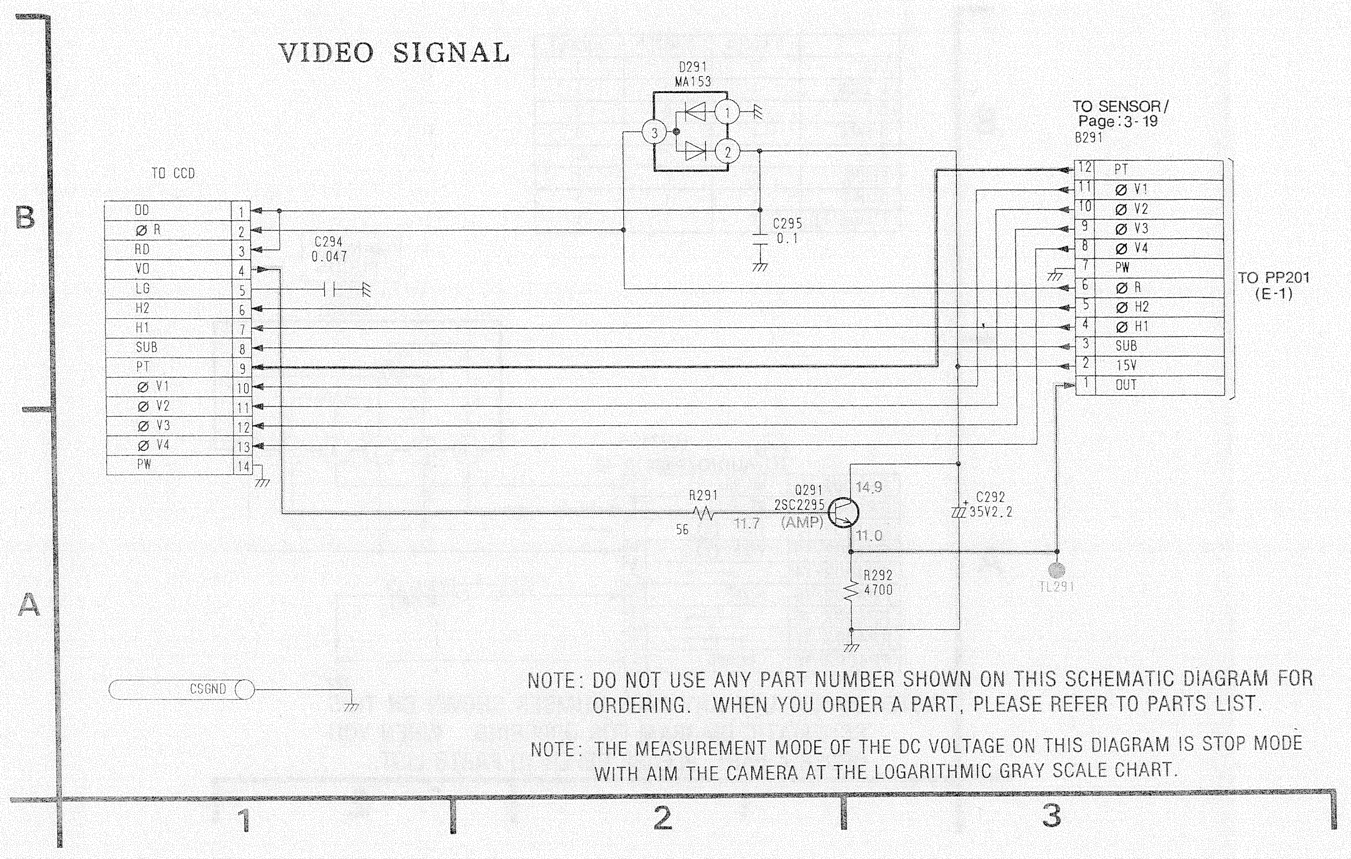

SUB SERVO SECTION
SENSOR SECTION
SYSTEM CTL & SERVO SECTION
PROCESS SECTION
LENS DRIVE SECTION
AUDIO SECTION
SYSTEM CTL & SERVO SECTION
LUMI/CHRO & HA SECTION
POWER SECTION
SYSTEM CTL & SERVO SECTION
POWER SECTIC
(COMPONENT SIDE)
(FOIL SIDE)
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

/CHROMINANCE & HEAD AMP and AUDIO Sections] C.B.A. (VEP23292A)


SYSTEM CTL & SERVO SECTION
PROCESS SECTION
SENSOR SECTION
SUB SERVO SECTION
LENS DRIVE SECTION
AUDIO SECTION
POWER SECTION
LUMI/CHRO & HA SECTION
FREQ. CTL
S/S & POWER SW C.B.A. (VEP00V80A)
S6701
S/S
S6702
CAM POWER
MAIN SUB C.B.A. (VEP00Y16A)
ZOOM SW
EJECT C.B.A. (VEP00X54A)
SW511
EJECT
SW513 BLC
9
10
11
12
13
14
15
16
17
18

NOTE: MULTI LAYER C. B. A
This C.B.A is Multi-Layer C.B.A
This Circuit Board Layout shows Component layout-pattern for Component side and Foil Side.
Layout-patterns are single pattern for each side that make easy to sight the Component layout.

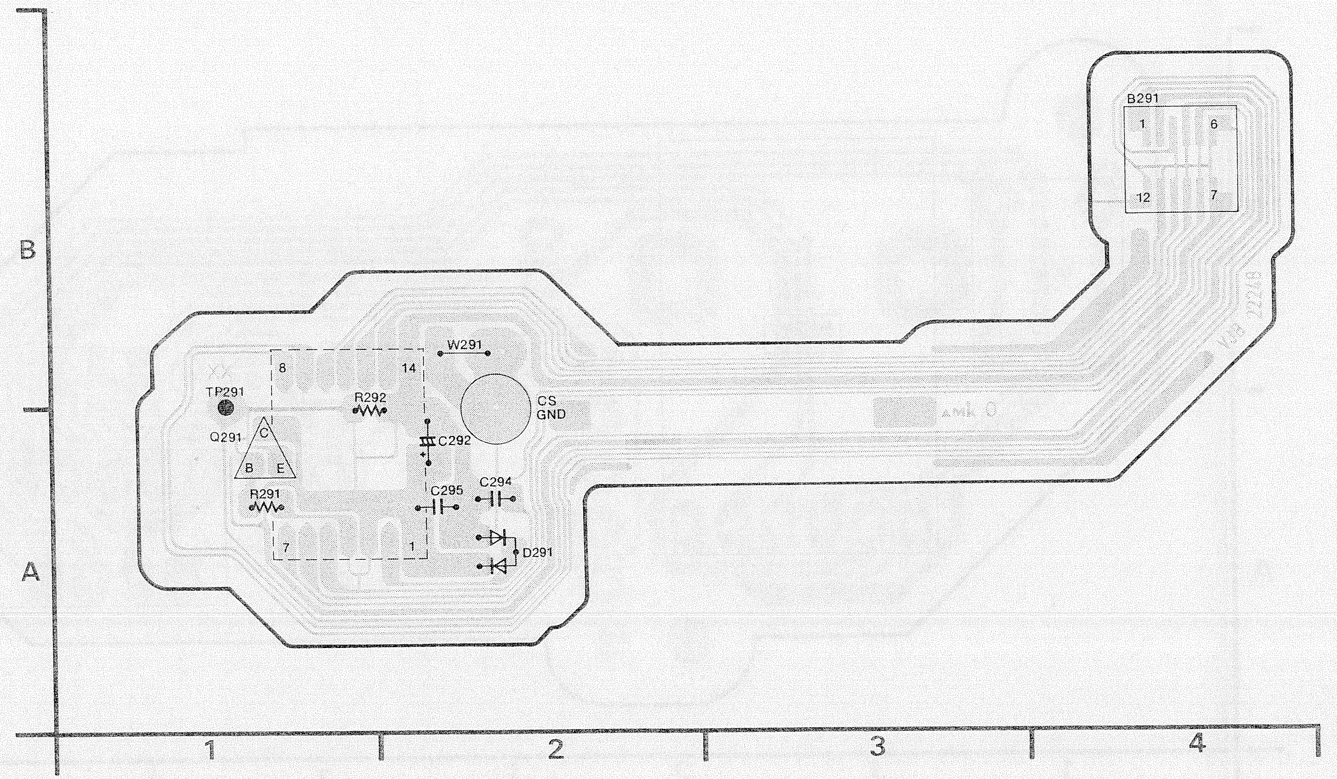
3-21. CCD FLEXIBLE CARD SCHEMATIC DIAGRAM


VIDEO SIGNAL
TO CCD
DD
Ø R
RD
VO
LG
H2
H1
SUB
PT
Ø V1
Ø V2
Ø V3
Ø V4
PW
D291
MA153
C294
0.047
C295
0.1
TO SENSOR/
Page:3-19
B291
PT
Ø V1
Ø V2
Ø V3
Ø V4
PW
Ø R
Ø H2
Ø H1
SUB
15V
OUT
TO PP201
(E-1)
R291
56
11.7
Q291
2SC2295
(AMP)
14.9
11.0
C292
35V2.2
R292
4700
TL291
CSGND
B
A
1
2
3

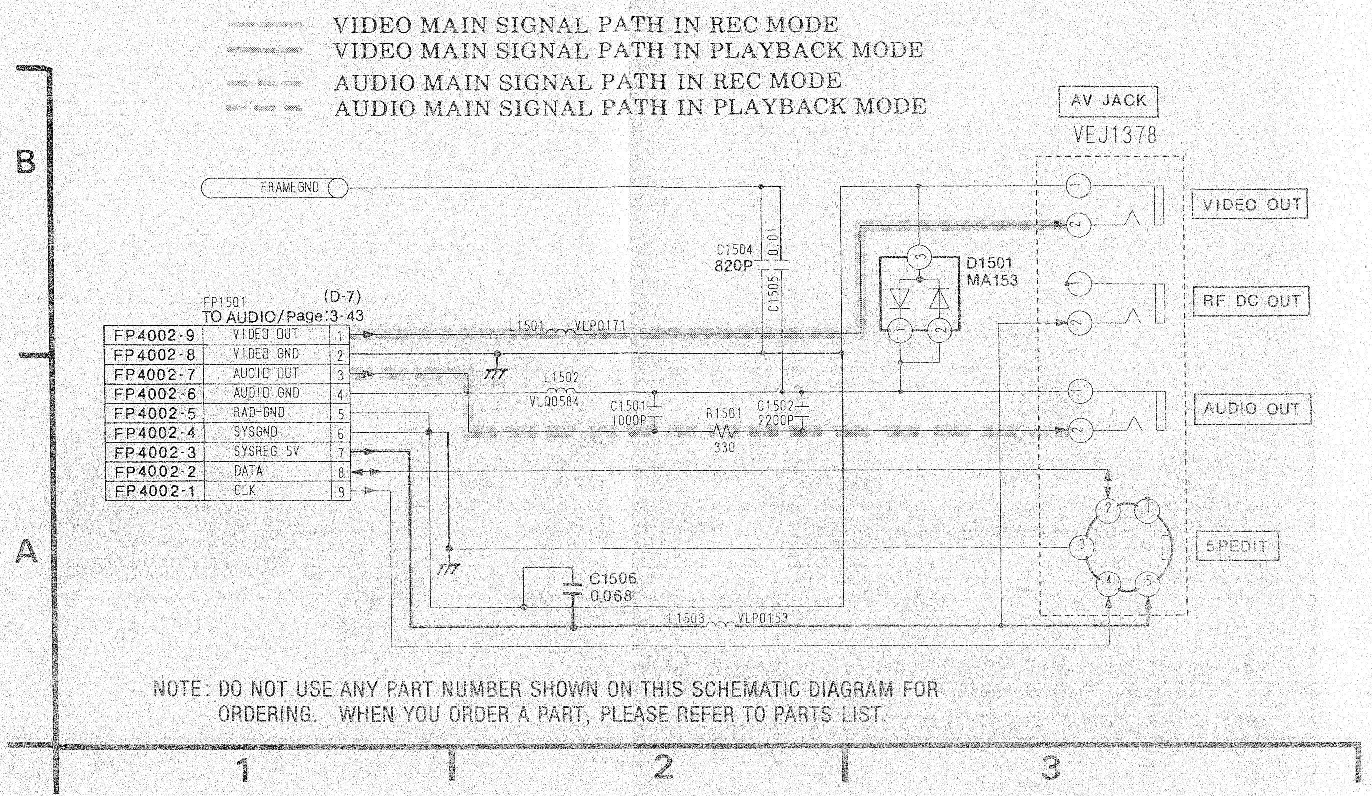
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-22. CCD FLEXIBLE CARD C.B.A. (VEP22248A)

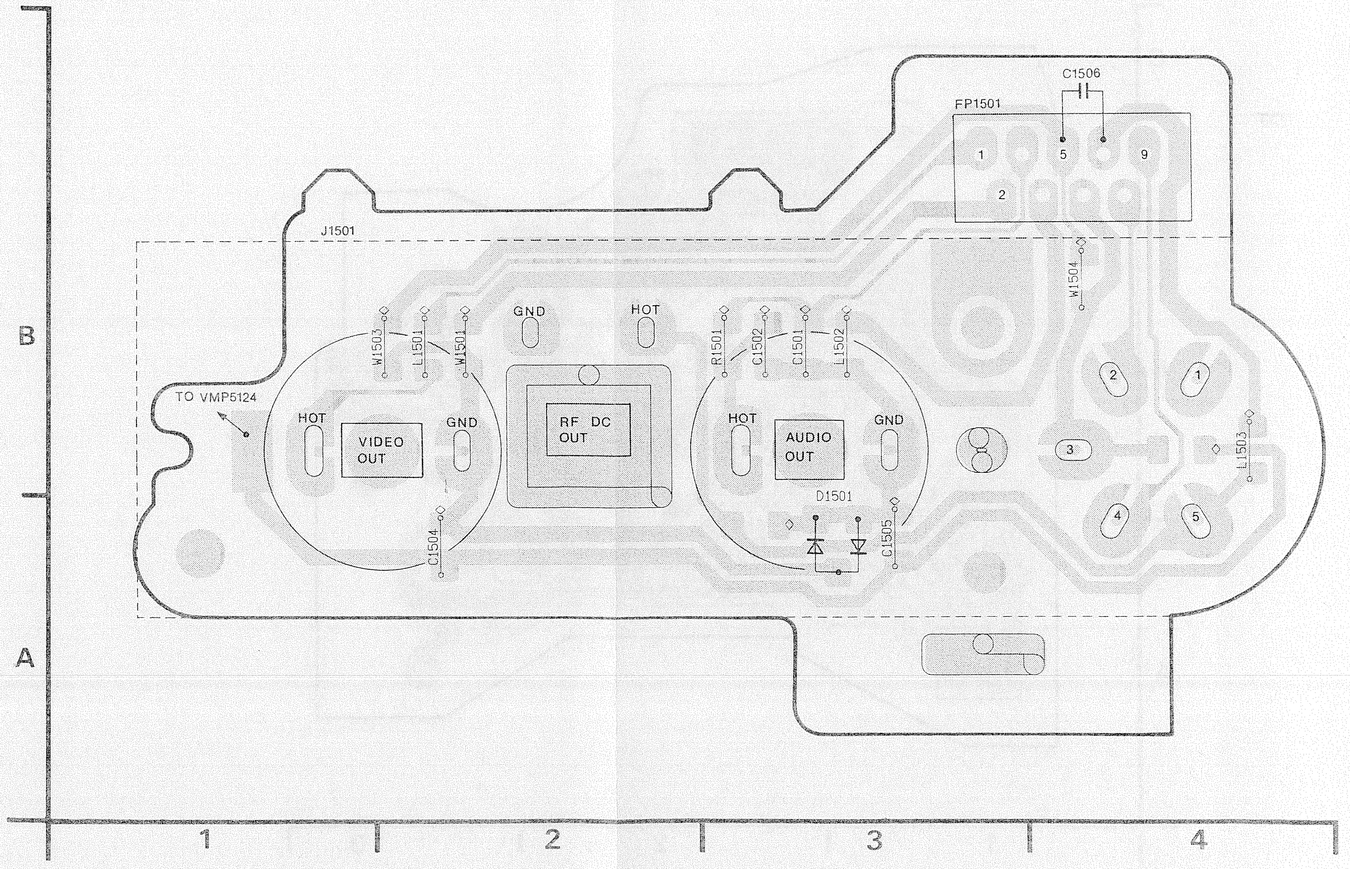

B291
1
6
12
7
TP291
Q291
C
B
E
R291
R292
W291
8
14
7
1
C292
C295
C294
D291
CS
GND
B
A
1
2
3
4

3-23. AV JACK SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
AV JACK
VEJ1378
FRAMEGND
FP1501
TO AUDIO/Page:3-43
(D-7)
FP4002-9
FP4002-8
FP4002-7
FP4002-6
FP4002-5
FP4002-4
FP4002-3
FP4002-2
FP4002-1
VIDEO OUT
VIDEO GND
AUDIO OUT
AUDIO GND
RAD-GND
SYSGND
SYSREG 5V
DATA
CLK
L1501
VLP0171
L1502
VLQ0584
C1501
1000P
R1501
330
C1502
2200P
C1504
820P
C1505
0.01
D1501
MA153
C1506
0.068
L1503
VLP0153
VIDEO OUT
RF DC OUT
AUDIO OUT
5PEDIT
B
A
1
2
3

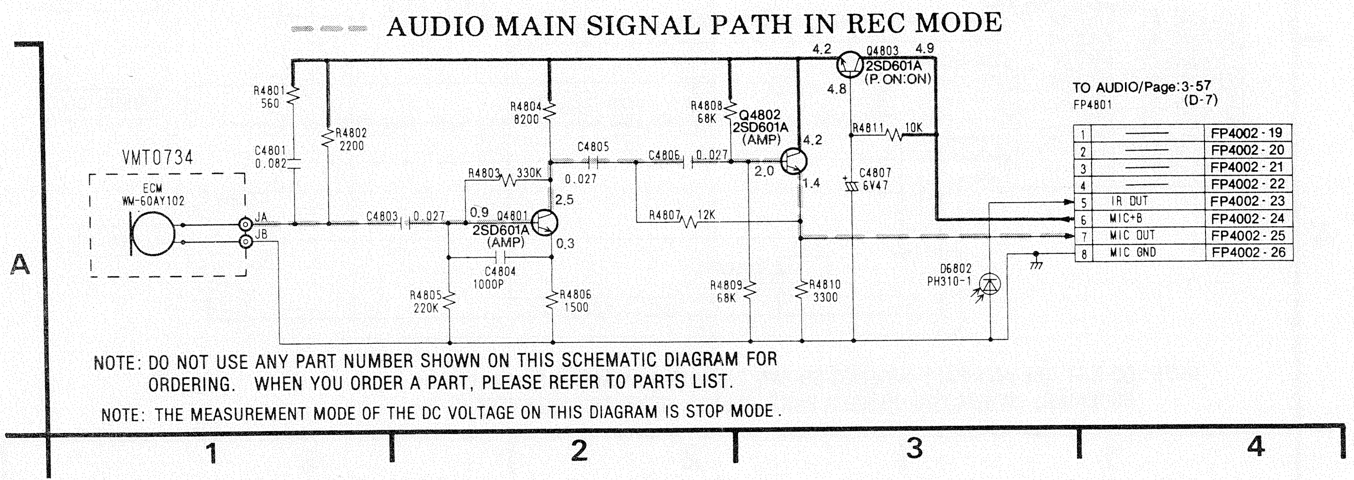
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-24. AV JACK C.B.A. (VEP00X57B)


C1506
FP1501
1
2
5
9
J1501
W1504
TO VMP5124
W1503
L1501
W1501
GND
HOT
R1501
C1502
C1501
L1502
HOT
VIDEO
OUT
GND
RF DC
OUT
HOT
AUDIO
OUT
GND
D1501
C1504
C1505
L1503
1
2
3
4
5
B
A
1
2
3
4

Back Page:
CAM/MAIN C.B.A. Section

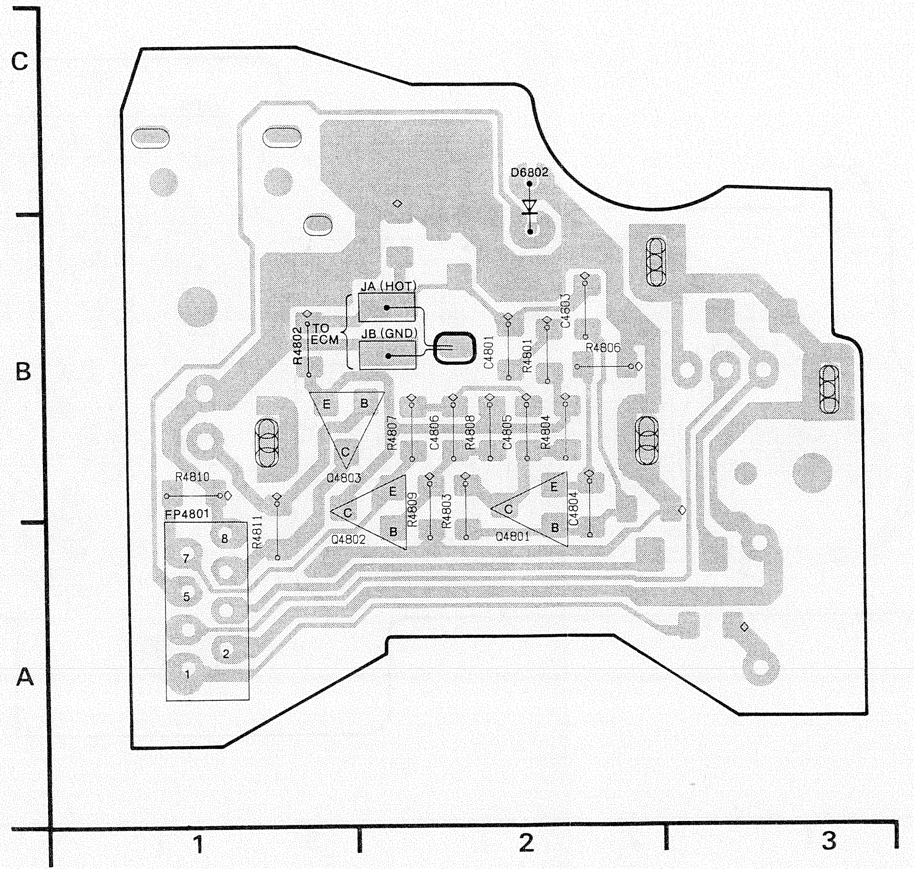
3-25. MIC SCHEMATIC DIAGRAM


AUDIO MAIN SIGNAL PATH IN REC MODE
VMT0734
ECM
WM-60AY102
JA
JB
R4801
560
C4801
0.082
R4802
2200
C4803
0.027
R4803
330K
R4804
8200
Q4801
2SD601A
(AMP)
0.9
2.5
0.3
C4804
1000P
R4805
220K
R4806
1500
C4805
0.027
C4806
0.027
R4807
12K
R4808
68K
Q4802
2SD601A
(AMP)
4.2
2.0
1.4
R4809
68K
R4810
3300
Q4803
2SD601A
(P.ON:ON)
4.2
4.9
4.8
R4811
10K
C4807
6V47
D6802
PH310-1
TO AUDIO/Page:3-57
(D-7)
FP4801
1 FP4002-19
2 FP4002-20
3 FP4002-21
4 FP4002-22
5 IR OUT FP4002-23
6 MIC+B FP4002-24
7 MIC OUT FP4002-25
8 MIC GND FP4002-26
A
1
2
3
4

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

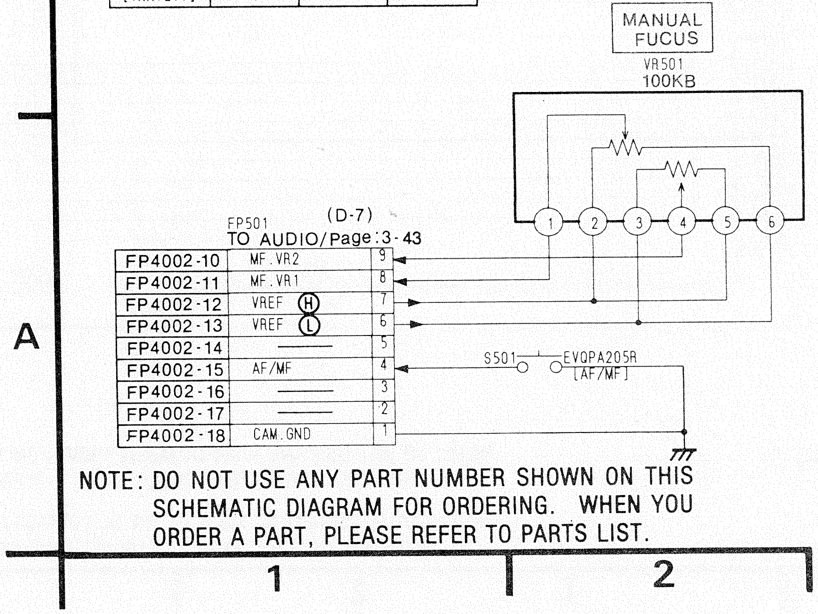
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-26. MIC C.B.A. (VEK7705)


D6802
JA (HOT)
JB (GND)
TO ECM
R4802
C4801
R4801
C4803
R4806
E
B
C
Q4803
R4807
C4806
R4808
C4805
R4804
R4810
FP4801
8
7
5
2
1
R4811
Q4802
R4809
R4803
Q4801
C4804
C
B
A
1
2
3

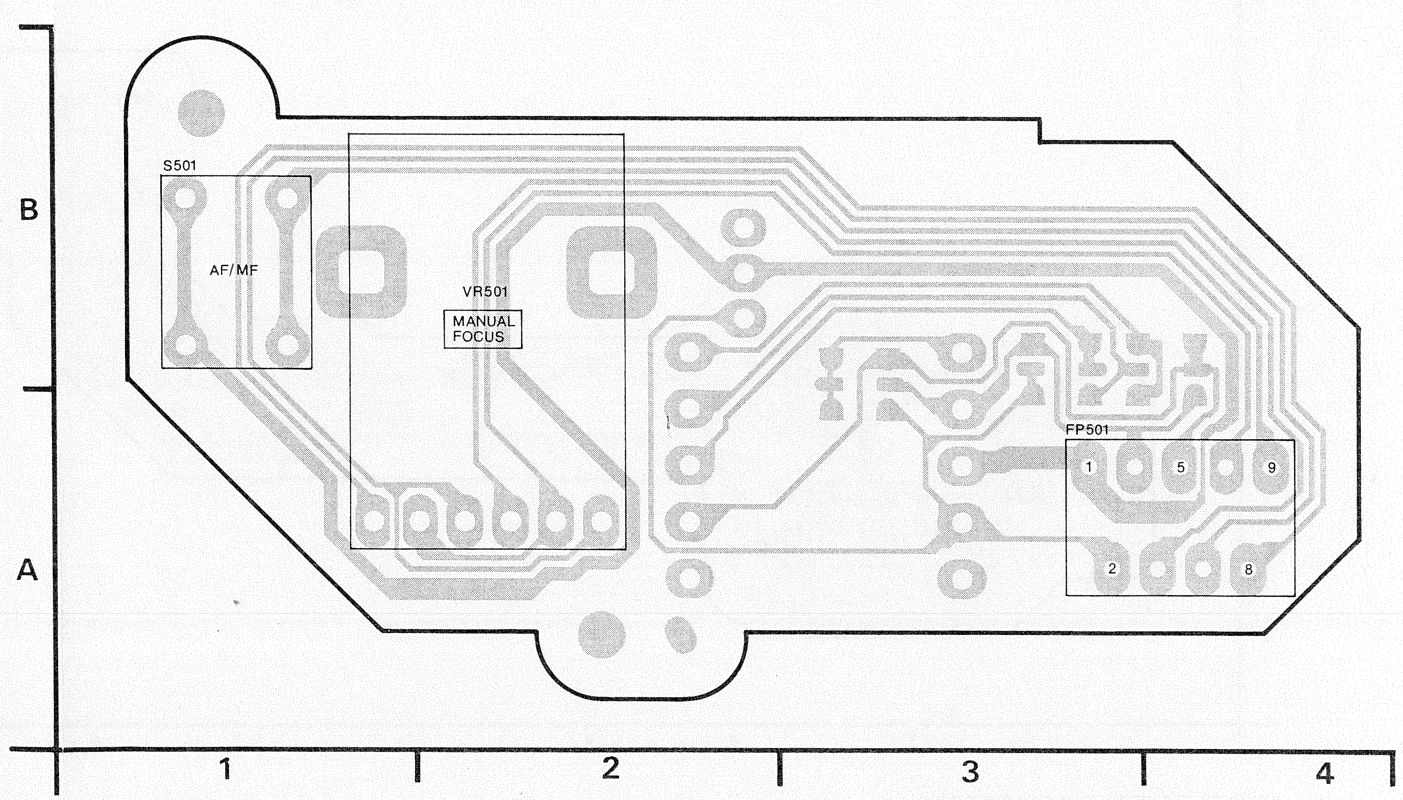
3-27. FRONT OPERATION SCHEMATIC DIAGRAM

	D.MODE0	D.MODE1	D.MODE2
DIS	0	1	1
D.ZOOM	1	0	1
OFF	0	0	0
D.FADE	1	0	0
WIPE	0	1	0
STROBO	0	0	1
GAINUP	1	1	0
[INHIBIT]	1	1	1


MANUAL
FUCUS
VR501
100KB
1
2
3
4
5
6
FP501
(D-7)
TO AUDIO/Page:3-43
FP4002-10 MF.VR2 9
FP4002-11 MF.VR1 8
FP4002-12 VREF Ⓗ 7
FP4002-13 VREF Ⓛ 6
FP4002-14 5
FP4002-15 AF/MF 4
FP4002-16 3
FP4002-17 2
FP4002-18 CAM.GND 1
S501
EVQPA205R
[AF/MF]
B
A
1
2

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

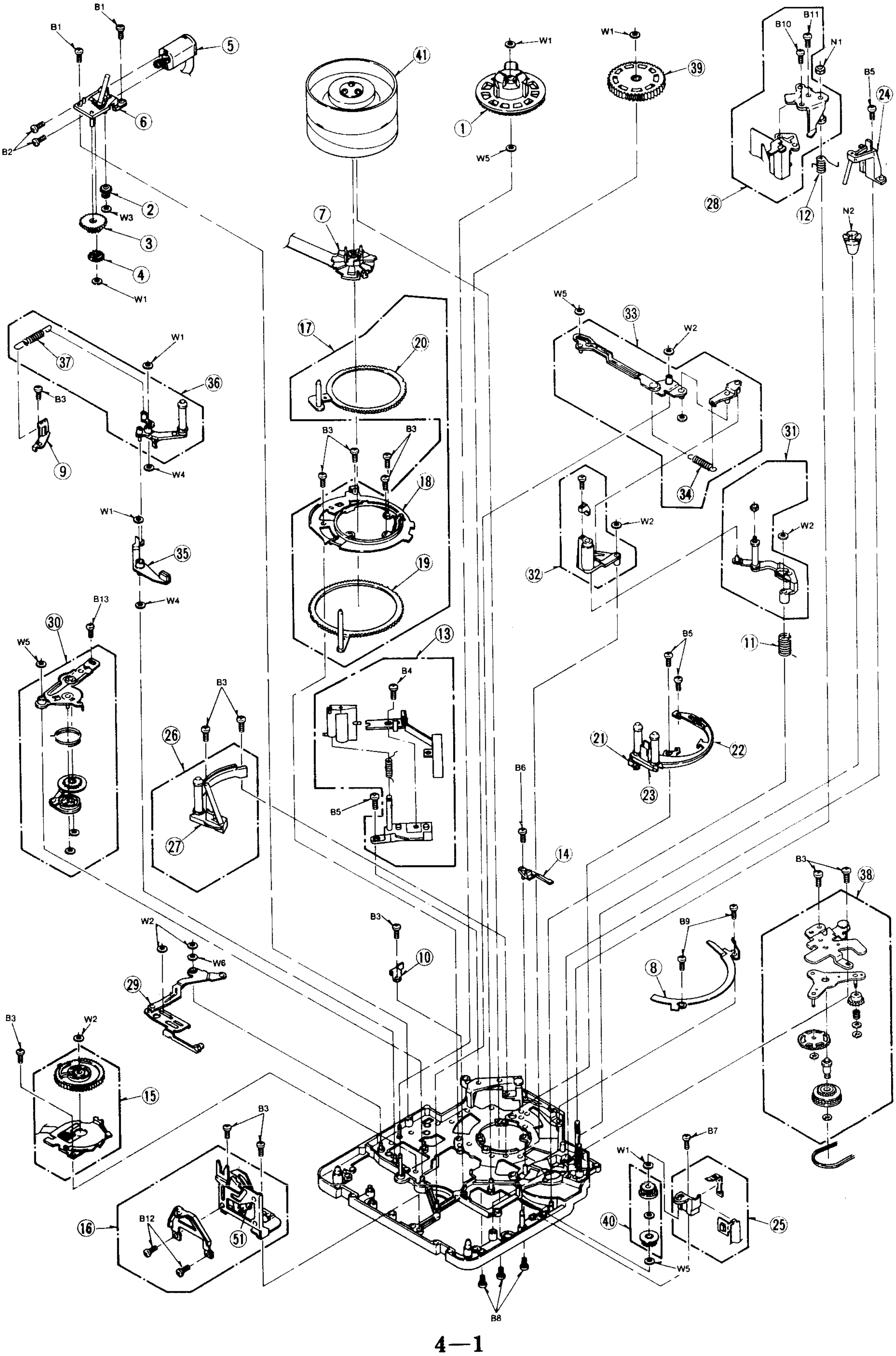
3-28. FRONT OPERATION C.B.A. (VEP00X56A)


S501
AF/MF
VR501
MANUAL
FOCUS
FP501
1
5
9
2
8
B
A
1
2
3
4

SECTION 4

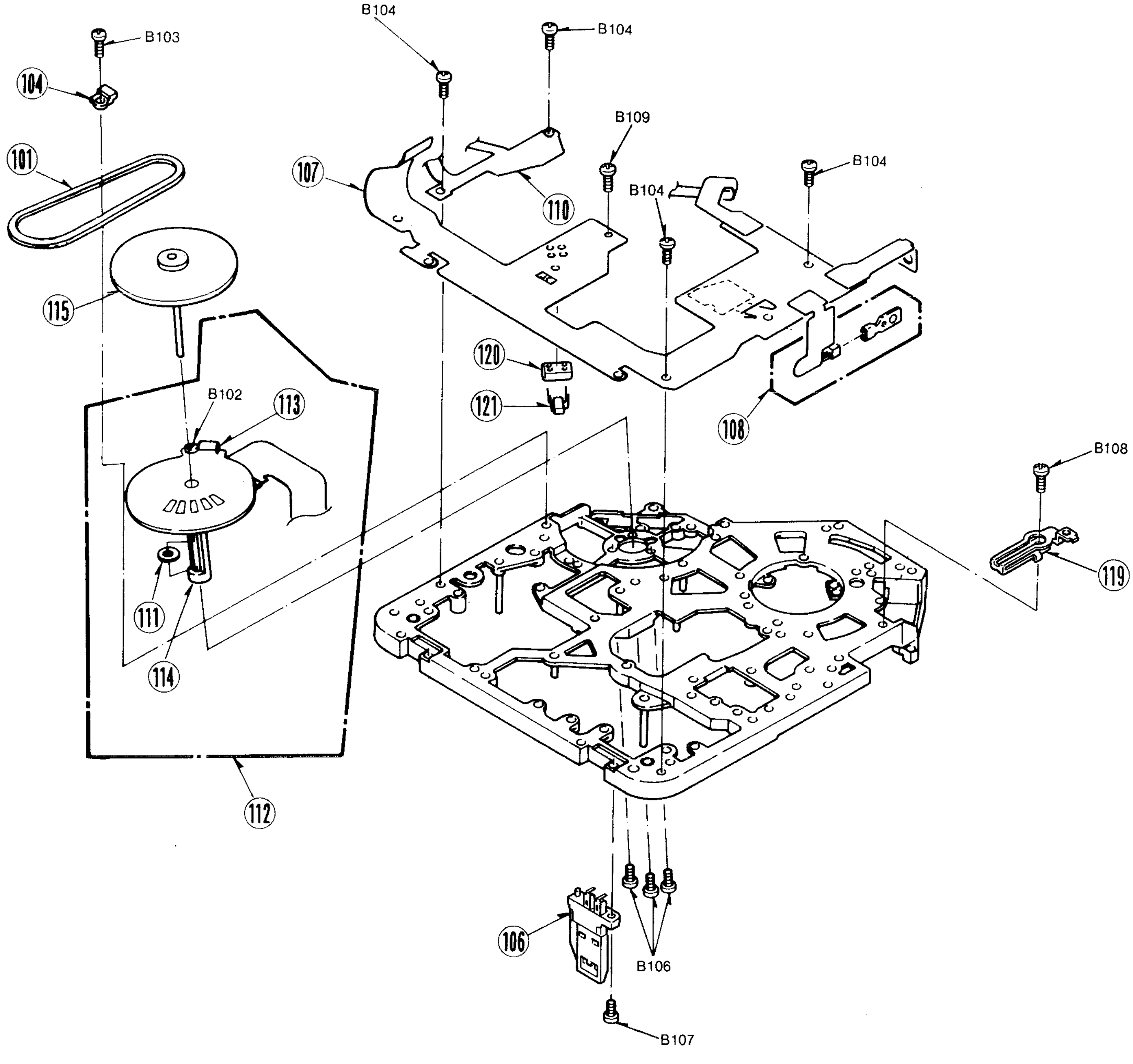
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS ❶ VTR MECHANISM SECTION (1)

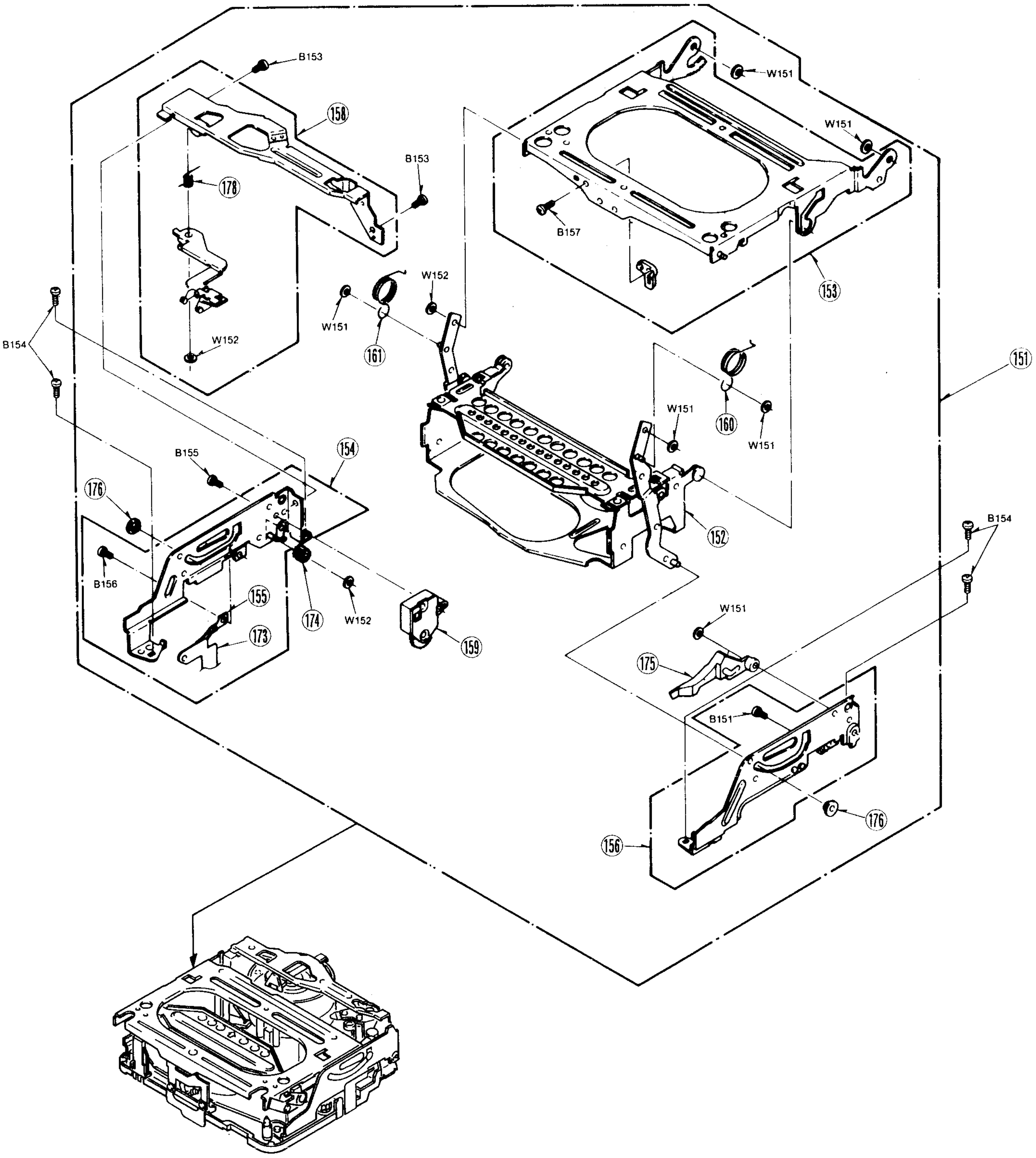


B1
B1
⑤
⑥
B2
②
W3
③
④
W1
㊶
W1
①
W5
W1
㊴
B10
B11
N1
B5
㉔
㉘
⑫
N2
⑦
⑰
⑳
W5
㉝
W2
㊲
W1
㊱
B3
⑨
W4
B3
B3
⑱
㉞
㉛
W2
W2
㉜
W1
㉟
W4
⑲
B13
㉚
W5
⑪
⑬
B5
B4
B3
㉖
㉑
㉒
㉓
B5
B6
㉗
⑭
B3
㊳
B3
B9
⑩
W2
W6
⑧
㉙
B3
W2
⑮
B3
B7
W1
B12
⑯
(51)
㊵
㉕
W5
B8

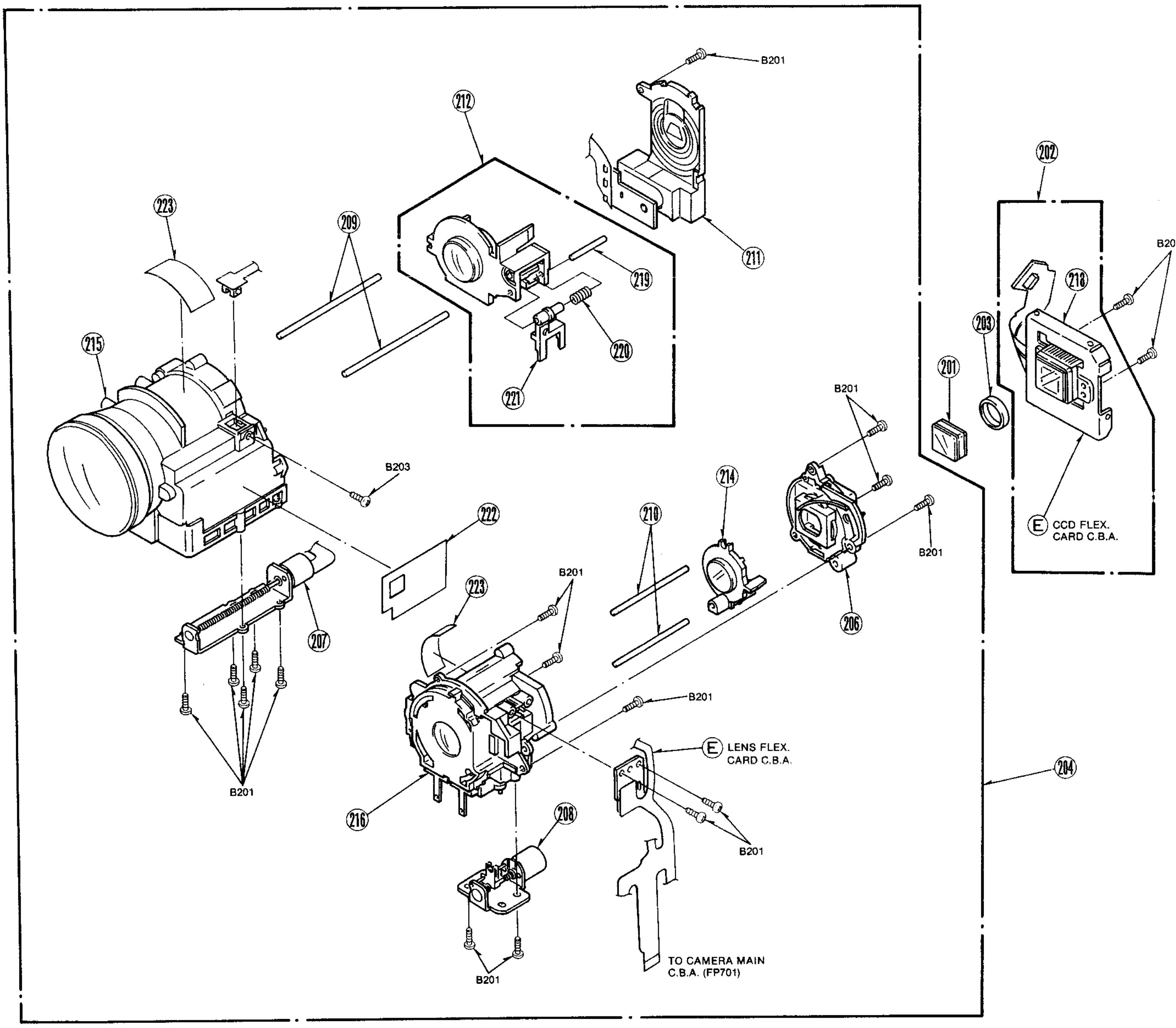
❷ VTR MECHANISM SECTION (2)


B103
104
101
115
B102
113
111
114
112
B104
B104
107
110
B109
B104
B104
108
120
121
B108
119
106
B106
B107

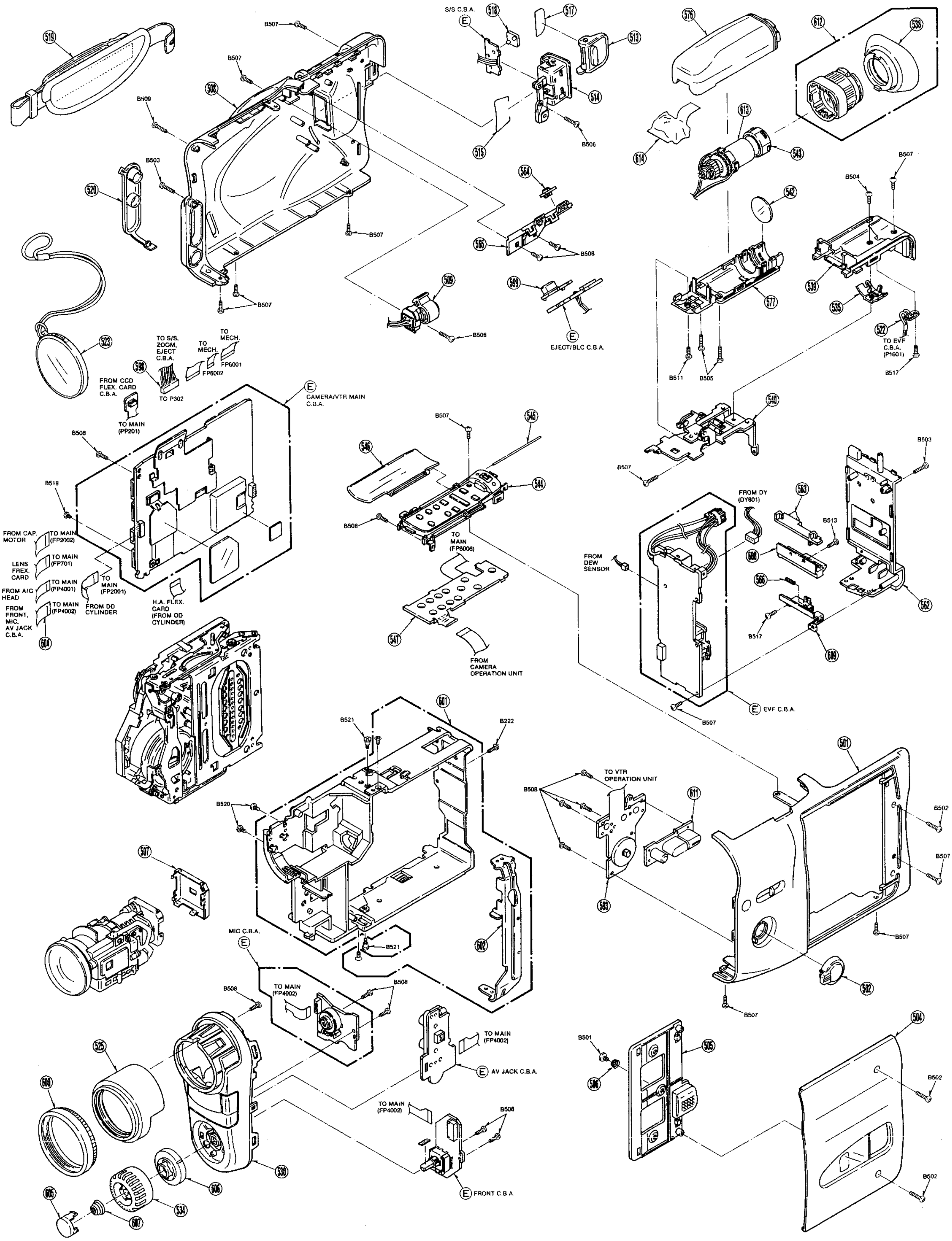
❸ VTR MECHANISM SECTION (3)


B153
(158)
B153
(178)
W151
W151
B157
(153)
W152
W151
(161)
W152
B154
(151)
W151
(160)
W151
B155
(154)
(176)
B156
(155)
(173)
(174)
W152
(159)
(152)
B154
W151
(175)
B151
(176)
(156)

❹ CAMERA LENS SECTION

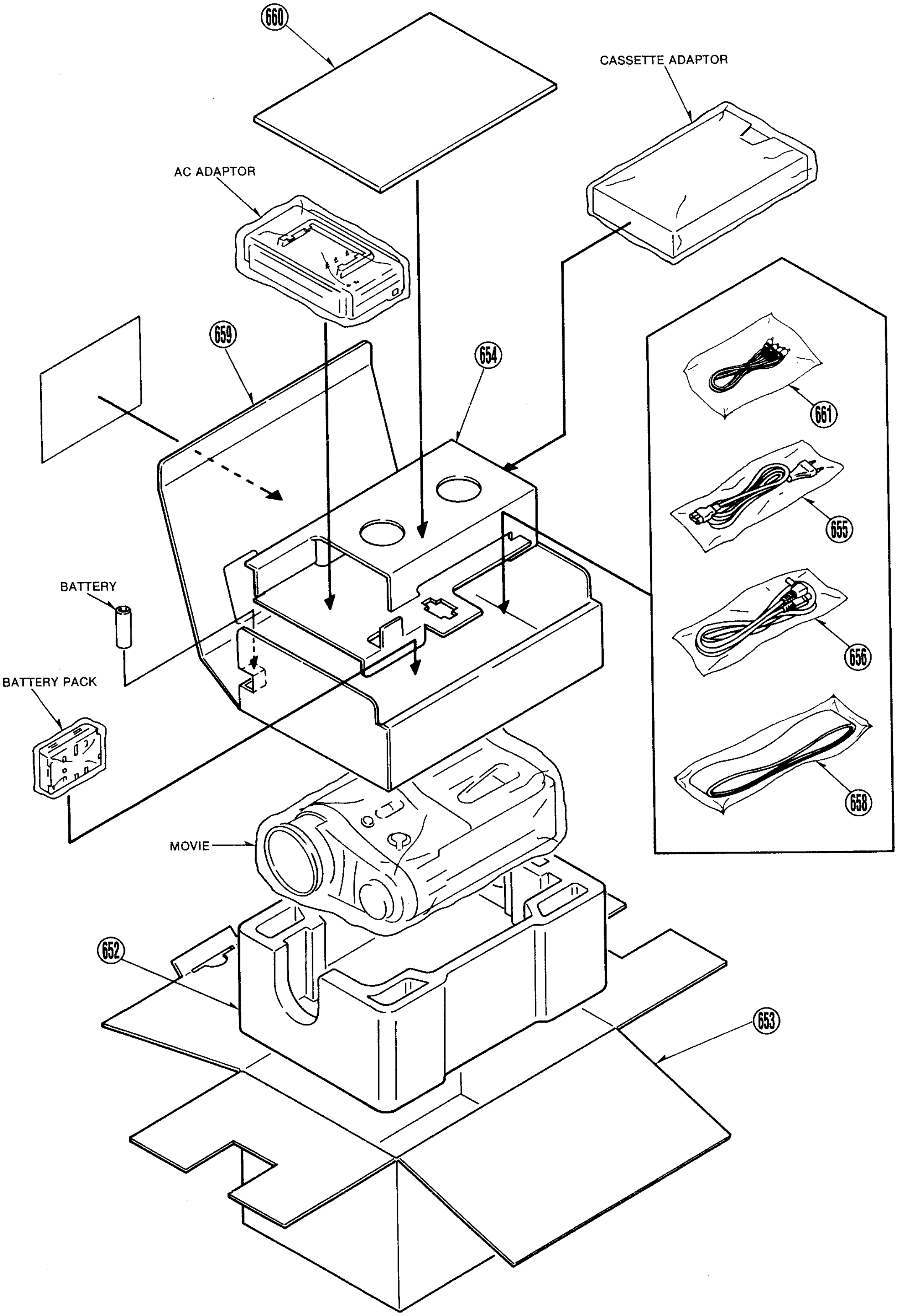

B201
212
202
223
209
219
211
B202
218
203
215
220
201
221
B201
B203
214
222
210
E CCD FLEX. CARD C.B.A.
B201
B201
223
206
207
B201
B201
E LENS FLEX. CARD C.B.A.
204
B201
216
208
B201
TO CAMERA MAIN C.B.A. (FP701)
B201

❺ FRAME & CASING PARTS SECTION



B507
S/S C.B.A.
E
518
517
513
514
515
B506
576
612
538
519
508
B507
B509
B503
520
613
614
543
564
565
B508
B507
509
B506
599
E
EJECT/BLC C.B.A.
542
B504
B507
539
577
535
522
TO EVF C.B.A. (P1601)
B517
B511
B505
523
TO S/S, ZOOM, EJECT C.B.A.
TO MECH.
TO MECH.
FP6001
FP6002
598
TO P302
FROM CCD FLEX. CARD C.B.A.
TO MAIN (PP201)
E
CAMERA/VTR MAIN C.B.A.
B508
B519
FROM CAP. MOTOR
TO MAIN (FP2002)
LENS FREX. CARD
TO MAIN (FP701)
FROM A/C HEAD
TO MAIN (FP4001)
TO MAIN (FP2001)
FROM FRONT, MIC, AV JACK C.B.A.
TO MAIN (FP4002)
FROM DD CYLINDER
H.A. FLEX. CARD (FROM DD CYLINDER)
604
B507
545
546
544
B508
TO MAIN (FP6006)
547
FROM CAMERA OPERATION UNIT
540
B507
B503
FROM DY (DY801)
563
B513
FROM DEW SENSOR
608
566
562
B517
609
E
EVF C.B.A.
B507
601
B521
B222
501
TO VTR OPERATION UNIT
B508
611
B502
B507
B520
507
603
602
B521
B507
502
MIC C.B.A.
E
TO MAIN (FP4002)
B508
B508
525
TO MAIN (FP4002)
E
AV JACK C.B.A.
B501
505
504
506
B502
600
TO MAIN (FP4002)
B508
530
606
605
534
607
E
FRONT C.B.A.
B502

❻ PACKING PARTS & ACCESSORIES SECTION



660
CASSETTE ADAPTOR
AC ADAPTOR
659
654
661
655
BATTERY
656
BATTERY PACK
658
MOVIE
652
653

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark ⟨!⟩ have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1 (1)		VDR0226	REEL BASE (S)	1	
2 (1)		VDG0821	BRAKE GEAR (A)	1	
3 (1)		VDG0822	BRAKE GEAR (B)	1	
4 (1)		VDG0823	BRAKE GEAR (C)	1	
5 (1)		VEM0417	LOADING MOTOR (1) U.	1	
6 (1)		VXA4527	MOTOR HOLDER U.	1	
7 (1)		VEK7277	RT CONNECTOR U.	1	
8 (1)		VMA8502	T-RING SLIDER	1	
9 (1)		VMA8505	TEN-REG.SPRING HOOK	1	
10 (1)		VMA8532	PENDULUM ARM HOLDER	1	
11 (1)		VMB2362	T3 ARM SPRING	1	
12 (1)		VMB2365	AC HEAD SPRING	1	
13 (1)		VXA5306	S-GUIDE STAND U.	1	
14 (1)		VMD1851	T-BOAT GUIDE	1	
15 (1)		VSR0096	MODE SWITCH U.	1	
16 (1)		VXA5001	LOCK BASE U.	1	
17 (1)		VXA4517	LOADING RING U.	1	
18 (1)		VMD1824	RING GUIDE	1	
19 (1)		VXA4518	T-RING U.	1	
20 (1)		VXA4519	S-RING U.	1	
21 (1)		VEK5549	LED U.	1	
22 (1)		VMD1828	T-RAIL	1	
23 (1)		VXA5260	T-BOAT U.	1	
24 (1)		VXA4528	T4 POST U.	1	
25 (1)		VXA4997	T-REEL SENSOR U.	1	
26 (1)		VXA5153	S-RAIL U.	1	
27 (1)		VXA5124	S-BOAT U.	1	
28 (1)		VXA5201	AC HEAD U.	1	
29 (1)		VXL2393	EJECT LEVER (1) U.	1	
30 (1)		VXL2401	SWING ARM U.	1	
31 (1)		VXL2431	T3 ARM (A) U.	1	
32 (1)		VXL2139	PINCH ARM U.	1	
33 (1)		VXL2140	PINCH DRIVE ARM U.	1	
34 (1)		VMB2363	PINCH PRESSURE SPRING	1	
35 (1)		VXL2144	PAD ARM U.	1	
36 (1)		VXL2145	TEN-REG. ARM U.	1	
37 (1)		VMB2364	TEN-REG. SPRING	1	
38 (1)		VXL2399	IDLER U.	1	
39 (1)		VXP1308	RELAY GEAR U.	1	
40 (1)		VXP1313	T-DRIVE GEAR U.	1	
41 (1)		VEG1174	CYLINDER U.	1	NV-RX1EG
41 (1)		VEG1175	CYLINDER U.	1	NV-RX1B/A/EN
51 (1)		VMB2369	LOCK SPRING	1	
B1 (1)		XQN14+B25FY	SCREW	2	
B2 (1)		XQN14+A14	SCREW	2	
B3 (1)		XQN14+B2	SCREW	13	
B4 (1)		XQN14+BJ35	SCREW	1	
B5 (1)		XQN14+B25FY	SCREW	3	
B6 (1)		XQN14+B25FY	SCREW	1	
B7 (1)		XQN14+B25FY	SCREW	1	
B8 (1)		XQN14+C35R	SCREW	3	
B9 (1)		VHD0711	SCREW	2	
B10 (1)		VHD0700	SCREW	1	
B11 (1)		VHD0699	SCREW	1	
B12 (1)		XQN14+CF25	SCREW	2	
B13 (1)		VHD0707	SCREW	1	
N1 (1)		VHN0047	NUT	1	
N2 (1)		VHN0175	NUT	1	
W1 (1)		VMX2027	WASHER	6	
W2 (1)		VMX2026	WASHER	7	
W3 (1)		VMX2051	WASHER	1	
W4 (1)		XWGV1223G	WASHER	2	
W5 (1)		XWGV12Y3G	WASHER	3	
W6 (1)		VMX2026	WASHER	1	
101 (2)		VDV0232	CAPSTAN BELT	1	
104 (2)		VMD1846	CAPSTAN STOPPER	1	
106 (2)		VSH0065	REC SAFETY SW U.	1	
107 (2)		VWJ0878	MECH.FLEXIBLE CARD	1	
108 (2)		VXA4511	PHOTO (L) U.	1	
110 (2)		VXA4997	T-REEL SENSOR U.	1	
111 (2)		VDB1129	LOWER BEARING	1	
112 (2)		VEK7314	STATOR U.	1	
113 (2)		VBK0059	MR HEAD	1	
114 (2)		VXD0134	HOUSING U.	1	
115 (2)		VXP1303	ROTOR U.	1	
119 (2)		VMP4923	H.A. EARTH PLATE	1	
120 (2)		VMD1842	REEL SENSOR MOUNT	1	
121 (2)		ON2170-LM	REEL SENSOR	1	
B102 (2)		VHD0593	SCREW	1	
B103 (2)		XQN14+B2	SCREW	1	
B104 (2)		XQN14+C2R	SCREW	5	
B106 (2)		XQN14+A3	SCREW	3	
B107 (2)		XQN14+CF4	SCREW	1	
B108 (2)		XQN14+C2	SCREW	1	
B109 (2)		VHD0875	SCREW	1	
151 (3)		VXA5725	GARAGE U.	1	
152 (3)		VXA5199	HOLDER U.	1	
153 (3)		VXA4863	GARAGE (1) U.	1	
154 (3)		VXA4510	STAND (L) U.	1	
155 (3)		VXA4511	PHOTO (L) U.	1	
156 (3)		VXA5000	STAND (R) U.	1	
158 (3)		VXL2222	TAPE GUIDE U.	1	
159 (3)		VXP1472	DUMPER	1	
160 (3)		VMB2367	UP SPRING (R)	1	
161 (3)		VMB2368	UP SPRING (L)	1	
173 (3)		VWJ0548	PHOTO FLEX.CARD	1	
174 (3)		VDG0827	DUMPER RELAY GEAR	1	
175 (3)		VML2580	TAPE OPEN LEVER	1	
176 (3)		VDP1406	ARM HOLDER	2	
178 (3)		VMB2498	TAPE GUIDE SPRING	1	
B151 (3)		VHD0776	SCREW	1	
B153 (3)		XQN14+BF2	SCREW	2	
B154 (3)		VHD0838	SCREW	4	
B155 (3)		XQN16+AJ8	SCREW	1	
B156 (3)		XQN14+CM2	SCREW	1	
B157 (3)		XQS14+A25FZ	SCREW	1	
W151 (3)		VMX1042	WASHER	6	
W152 (3)		VMX1061	WASHER	3	
201 (4)		VDL0478	CRYSTAL FILTER	1	
202 (4)		VEK7826	CCD UNIT	1	
203 (4)		VMX2565	CCD CUSHION	1	
204 (4)		VXW0320	LENS U.	1	
206 (4)		VDW0319	CRYSTAL MOUNT PLATE	1	
207 (4)		VEM0472	ZOOM MOTOR U.	1	
208 (4)		VEM0451	FOCUS MOTOR U.	1	
209 (4)		VMS5735	Z GUIDE POLE	2	
210 (4)		VMS5736	F GUIDE POLE	2	
211 (4)		VXL2445	IRIS U.	1	
212 (4)		VXP1554	2ND. MOVING FRAME U.	1	
214 (4)		VXP1555	4TH. MOVING FRAME U.	1	
215 (4)		VXQ0440	MAIN FRAME U.	1	
216 (4)		VXQ0441	3RD.LENS FRAME U.	1	
218 (4)		VSC3671	CCD SHIELD CASE	1	
219 (4)		VMS5734	RACK G. P	1	
220 (4)		VMB2796	2ND. SPRING	1	
221 (4)		VML2911	2ND. RACK	1	
222 (4)		VMA9343	PLUMBIC SHEET(A)	1	
223 (4)		VMA9344	PLUMBIC SHEET(B)	1	
B201 (4)		XQN16+CJ5	SCREW	15	
B202 (4)		XQN16+CJ6	SCREW	2	
B203 (4)		VHD0852	SCREW	1	
501 (5)		VKM4306	SIDE CASE (R)	1	
502 (5)		VXU1404	AE DIAL U	1	
504 (5)		VYK6785	CASSETTE COVER (1) U.	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
505 (5)		VGU7177	CASSETTE LOCK BUTTON	1	
506 (5)		VMB2604	CASSETTE COIL SPRING	1	
507 (5)		VSC4187	CCD SHIELD CASE	1	
508 (5)		VYK6857	SIDE CASE (L)(1)U.	1	
509 (5)		VXU1437	ZOOM BUTTON U.	1	
513 (5)		VXU1398	S/S BUTTON U.	1	
514 (5)		VGQ4084	S/S BUTTON HOLDER	1	
515 (5)		VMB2594	S/S BUTTON COVER SPRING	1	
517 (5)		VGQ4206	S/S BUTTON SHEET	1	
518 (5)		VMG0833	RUBBER SW	1	
519 (5)		VYC0618	GRIP BELT U.	1	
520 (5)		VKF2543	AV JACK COVER	1	
522 (5)		VEK5550	DEW SENSOR	1	
523 (5)		VYF2326	HOOD COVER U.	1	
525 (5)		VYK6776	LENS COVER U.	1	
530 (5)		VYK6958	FRONT CASE (2) U.	1	
534 (5)		VGU7171	FOCUS KNOB	1	
535 (5)		VGQ4136	EVF LOCK PIECE	1	
538 (5)		VMG0631	EYE CAP	1	
539 (5)		VKM4315	EVF MOUNT PANEL	1	
540 (5)		VYK6784	EVF ROTARY ANGLE U.	1	
542 (5)		VKW2178	PROTECTION PANEL	1	
543 (5)		M01LGM07WB02	CRT	1	
544 (5)		VYK6858	TOP PANEL (1) U.	1	NV-RX1EG
544 (5)		VYK6861	TOP PANEL (1) U.	1	NV-RX1A/B/EN
545 (5)		VMS5382	SHAFT	1	
546 (5)		VKF2525	VTR DOOR	1	
547 (5)		VEK7809	VTR OPERATION U.	1	
562 (5)		VKM4313	REAR CASE (2) U.	1	
563 (5)		VGQ4118	BATTERY LOCK	1	
564 (5)		VGU7169	EJECT KNOB	1	
565 (5)		VGQ4123	EJECT C.B.A. HOLDER	1	
566 (5)		VMB2386	BATTERY LOCK SPRING	1	
576 (5)		VKM4308	EVF CASE (UPPER)	1	
577 (5)		VKM4309	EVF CASE (LOWER)	1	
593 (5)		VEK7880	CAMERA OPERATION UNIT	1	
598 (5)		VEE9660	S/S/ ZOOM /EJECT CABLE U.	1	
599 (5)		VMG0980	BACK LIGHT BUTTON	1	
600 (5)		VYQ1299	LENS HOOD U.	1	
601 (5)		VYQ1275	MAIN FRAME	1	
602 (5)		VMP4924	MAIN FRAME REINFORCE PLATE	1	
604 (5)		VJB00X58	FRONT FPC	1	
605 (5)		VGU7175	MF SELECT BUTTON	1	
606 (5)		VGQ4079	MF SELECT PIECE	1	
607 (5)		VMB2988	MF SELECT BUTTON SPRING	1	
608 (5)		VGQ2607	BATTERY LOCK HOLDER	1	
609 (5)		VMP4948	BATTERY LOCK HOLD ANGLE	1	
611 (5)		VMG0999	CAMERA OPERATION BUTTON	1	
612 (5)		VYK6780	FINDER CASE U.	1	
613 (5)		ELY05V584A	DY	1	
614 (5)		VGQ4194	BLINDER BARRIER		
B501 (5)		VHD0794	SCREW	1	
B502 (5)		XQN2+CF7FZ	SCREW	2	
B503 (5)		XQN2+CJ12FZ	SCREW	1	
B504 (5)		XQN2+CF6FZ	SCREW	1	
B505 (5)		XQN16+CJ8FZ	SCREW	2	
B506 (5)		XQN2+CJ8	SCREW	2	
B507 (5)		XQN2+CJ6FZ	SCREW	14	
B508 (5)		XQN2+CJ6	SCREW	12	
B509 (5)		XQN2+CJ8FZ	SCREW	1	
B511 (5)		XQN2+C3FZ	SCREW	1	
B513 (5)		XQN2+BF4	SCREW	1	
B515 (5)		XQN2+C3	SCREW	2	
B517 (5)		XQN2+CJ4	SCREW	2	
B519 (5)		XQN2+CF5	SCREW	1	
B520 (5)		XQN16+CJ6	SCREW	2	
B521 (5)		VHD0713	SCREW	2	
B522 (5)		XQN2+C3	SCREW	1	
652 (6)		VPN4367	CUSHION (LOWER)	1	
653 (6)		VPG8338	PACKING	1	NV-RX1EG
653 (6)		VPG8339	PACKING	1	NV-RX1EGM
653 (6)		VPG8340	PACKING	1	NV-RX1EGV
653 (6)		VPG8341	PACKING	1	NV-RX1B

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
653 (6)		VPG8343	PACKING	1	NV-RX1EN
653 (6)		VPG8344	PACKING	1	NV-RX1ENH
653 (6)		VPG8342	PACKING	1	NV-RX1A
654 (6)		VPN4453	ACCESSORIES PAD	1	
655 (6)		VJA0664	AC CORD	1	<!>NV-RX1EG/EN
655 (6)		VJA0940	AC CORD	1	<!>NV-RX1B
655 (6)		VJA0754	AC CORD	1	<!>NV-RX1A
655 (6)		VJA0940	AC CORD	1	<!!>NV-RX1ENH
656 (6)		VJA0769	DC OUTPUT CABLE	1	
658 (6)		VFC1830	SHOLDER STRAP	1	
659 (6)		VPN4452	ACCESSORIES BOX	1	
660 (6)		VQT6495	OPERATING INSTRUCTIONS	1	<!>NV-RX1EG/EGV
			(GERMAN/ITALIAN)		
660 (6)		VQT6443	OPERATING INSTRUCTIONS	1	<!>NV-RX1EGM
			(FRENCH/SPANISH/DUTCH		
			/SWEDISH)		
660 (6)		VQT6444	OPERATING INSTRUCTIONS	1	<!>NV-RX1EGM
			(ENGLISH/DANISH)		
660 (6)		VQT6445	OPERATING INSTRUCTIOONS	1	<!>NV-RX1EGV
			(ENGLISH/FRENCH		
			/DUTCH/RUSSIAN)		
660 (6)		VQT6447	OPERATING INSTRUCTIONS	1	<!>NV-RX1B
			(ENGLISH)		
660 (6)		VQT6448	OPERATING INSTRUCTIONS	1	<!>NV-RX1A
			(ENGLISH)		
660 (6)		VQT6446	OPERATING INSTRUCTIONS	1	<!>NV-RX1EN
			(ENGLISH/CHINESE		
			ARABIC/RUSSIAN)		
661 (6)		VFA0039	AV CORD	1	NV-RX1A/EN
			****** JIG & TOOLS *****		
			-------- ELECTRICAL -------		
		VFM8180HUPF	VHS-C ALIGMENT TAPE	1	PAL
		VFK0374	COLOUR TEMP.CONV.FILRTER	1	(C12) OR VFK0713
		VEK0375	COLOUR TEMP.CONV.FILRTER	1	(C2) OR VFK0716
		VFK0644	EVR FIXTURE	1	
		VFK0701ROM32	ROM	1	
		VFK0766A	EVR CONNECTION CABLE 5P	1	
		VFK0734W	MEASURENT CABLE 24P	1	
		VFKWOF0033	ATTACHMENT CABLE	2	OR VFK0670
		VFKWOF0034	ATTACHMENT CABLE	2	
		VFKWOF001	COMMON CABLE	2	
		VFKWOF0128	ATTACHMENT CABLE	1	OR VFK0978
		VFKWOF0127	ATTACHMENT CABLE	1	
		VFKWOF0001	COMMON CABLE	1	
		VFKWOF0118	ATTACHMENT CABLE	1	OR VFK0929
		VFKWOF0117	ATTACHMENT CABLE	1	
		VFKWOF0001	COMMON CABLE	1	
		VFKWOF0132	ATTACHMENT CABLE	1	OR VFK0980
		VFKWOF0131	ATTACHMENT CABLE	1	
		VFKWOF0001	COMMON CABLE	1	
		VFKWOF0111	ATTACHMENT CABLE	1	OR VFK013
		VFKWOF0112	ATTACHMENT CABLE	1	
		VFKWOF0001	COMMON CABLE	1	
		VFKWOF0140	ATTACHMENT CABLE	1	
		VFKWOF0139	ATTACHMENT CABLE	1	
		VFKWOF0001	COMMON CABLE	1	
		VFK0668	EXTENSION CABLE	1	
			------ MECHANICAL ------		
		VFK0743	H-POSITION ADJUSTMENT	1	
		VFK0824	ASTERISK TYPE RENCH	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0329	POST ADJ. SCREW DRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLTONE GREASE	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP23292A	CAMERA/MAIN C.B.A.	1	(RTL)
			(Page:4-9)		
		VEP28229A	E.V.F. C.B.A.	1	(RTL)
			(Page:4-14)		
		VEP22248A	CCD FLEX. CARD C.B.A.	1	(RTL)
			(Page:4-15)		
		VEK7800	LENS FLEX. CARD C.B.A.	1	(RTL)
			(Page:4-15)		
		VEK7705	MIC C.B.A.	1	(RTL)
			(Page:4-15)		
		VEP00X57B	AV JACK C.B.A.	1	(RTL)
			(Page:4-16)		
		VEP00X54A	EJECT/BLC C.B.A.	1	(RTL)
			(Page:4-16)		
		VEP00V80A	S/S C.B.A.	1	(RTL)
			(Page:4-16)		
		VEP00X56A	FRONT OPERATION C.B.A.	1	(RTL)
			(Page:4-16)		
	■	VEP23292A	CAMERA/MAIN C.B.A.		(RTL)
C1		ECST0JY475Z	T.CAPACITOR CH 6.3V 4.7U	1	
C201		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C202		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C203		ECST0JY156Z	T.CAPACITOR 6.3V 15U	1	
C204		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C205		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C206-12		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	7	
C213		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C214		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C218		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C219		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C220		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C221		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C222		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C223		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C224		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C225		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C226		ECST1CY475Z	T.CAPACITOR 16V 4.7U	1	
C227		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C228		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C229		ECST1GX155Z	T.CAPACITOR 40V 1.5U	1	
C230		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C231,32		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C234-36		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C238		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C240		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C302		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C304		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C306		ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C307		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C308		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C309		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C310		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C311		ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C313		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C317		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C321		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C322		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C403		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C405		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C406		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C407,08		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	2	
C409		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C410		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C411		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C412		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C413		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C414,15		ECST0JY106Z	T.CAPACITOR 6.3V 10U	2	
C416		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C417		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C418		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C701		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C702		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C703		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C704		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C705		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C706,07		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	2	
C708,09		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C710		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C711		ECEV1CA101	E.CAPACITOR 16V 100U	1	
C712		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C713		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C714		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C715		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C716		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C718		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C719		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C720		ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C721		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C722		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C724		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C751		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C752		ECEV0JA101	E.CAPACITOR CH 6.3V 100U	1	
C753		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1002,03		ECUM1A335KBP	C.CAPACITOR CH 10V 33U	2	
C1004		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1005		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1008		ECUM1A335KBP	C.CAPACITOR CH 10V 33U	1	
C1009		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C1010		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1012		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C1014		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C1017		ECUM1E105KB	C.CAPACITOR CH 50V 1U	1	
C1019		ECUM1E474ZFM	C.CAPACITOR CH 25V 0.47U	1	
C1020		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1022		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1024		ECUM1C155ZFN	C.CAPACITOR CH 16V 1.5U	1	
C1025		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C1026		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C1027		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C1028		ECEV1HAR47	E.CAPACITOR 50V 0.47U	1	
C1029		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1030		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1031		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1032		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1033-35		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	3	
C1036		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C1037		ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1040,41		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C1042		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1051		ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C1055		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1057		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1064		ECEV1AG330S	E.CAPACITOR 10V 33U	1	
C1066		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C1071		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C1073		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1080,81		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1112		ECUM1A335KBP	C.CAPACITOR CH 10V 33U	1	
C2001,02		ECEV1HA010	E.CAPACITOR 50V 1U	2	
C2003		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C2004		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2005		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C2007		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C2009		ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C2010		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2011		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C2012,13		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C2014		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C2015-17		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	3	
C2018		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C2020-22		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C2023		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C2025-27		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2028		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C2029		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2033		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C2040-42		ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	3	
C2043		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2070		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3001		ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3002		ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
C3003		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3004		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3006		ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1	
C3007		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3008		ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	1	
C3010		ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3011,12		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3013		ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3014		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3016		ECUX1H391JCV	C.CAPACITOR CH 50V 390P	1	
C3017		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3018		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3019		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3020		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3021		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3022		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C3023		ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C3024		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C3026		ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C3027		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3028		ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C3029		ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3032		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C3033		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C3034		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3035		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3036		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C3037		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C3038		ECUM1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C3048		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C3049		ECUM1C105MBM	C.CAPACITOR CH 16V 1U	1	
C3050		ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C3051		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3052,53		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4001,02		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4006,07		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4008		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4009		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4010		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4011		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4012		ECST0JX226Z	T.CAPACITOR CH 6.3V 22U	1	
C4013		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4014		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C4015		ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C4016		ECUM2A472JCM	C.CAPACITOR CH100V 4700P	1	
C4017		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4018		ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4019		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C4020		ECUX1C153KBV	C.CAPACITOR CH 16V 0.015U	1	
C4021		ECEV1HA3R3	E.CAPACITOR CH 50V 3.3U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4022		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4023		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4024		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C4025		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C4026		ECST1VY334Z	T.CAPACITOR CH 35V 0.33U	1	
C4027		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C4028		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4029		ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4030		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4031		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4032		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C4033		ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C4034		ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C4035		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C4036		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C4037		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C5001-04		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C5005-08		ECUX1H270JCV	C.CAPACITOR CH 50V 27P	4	
C5009,10		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5011		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C5012,13		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C5014		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5016		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5017		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5018		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C5019		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5020,21		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5022		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5023		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5041		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C5501		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C5502		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5504		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5506		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5508		ECUX1H010CCV	C.CAPACITOR CH 50V 1P	1	
C5509		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C5510		ECUX1C223KBV	C.CAPACITOR CH 16V 0.022U	1	
C5511		ECST1EY474Z	T.CAPACITOR CH 25V 0.47U	1	
C5512		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C5513		ECUX1C683KBV	C.CAPACITOR CH 16V 0.068U	1	
C5514		ECEV05A470	E.CAPACITOR CH 4V 47U	1	
C5515		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5516		ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C5517		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5518		ECUM1C104KBN	C.CAPACITOR CH 16V 0.1U	1	
C5519		ECST0GY475Z	T.CAPACITOR CH 4V 4.7U	1	
C5520		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C5521		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5522		ECST0JY335Z	T.CAPACITOR 6.3V 3.3U	1	
C5523		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5524		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5526		ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C5527		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5528		ECUX1C273KBV	C.CAPACITOR CH 16V 0.027U	1	
C5530		ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C5531		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C5540		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6001-04		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C6005		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6006,07		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	2	
C6008,09		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6010		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6011		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6012		ECUX1H070CCV	C.CAPACITOR CH 50V 7P	1	
C6013		ECUX1H100CCV	C.CAPACITOR CH 50V 10P	1	
C6014,15		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6016		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C6017		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6018		ECEV1CA470P	E.CAPACITOR CH 16V 47U	1	
C6019		ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C6020		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6022,23		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	2	
C6025		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6027		ECEV0GA101	E.CAPACITOR CH 4V 100U	1	
C6030		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6031,32		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6036		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6038		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6039		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6040		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6046-48		ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C6060		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C6061		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6100		ECST0JY106Z	T.CAPACITOR 6.3V 10U	1	
C6201,02		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6203		ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C6204		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C6205		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6206		ECEV0GA101	E.CAPACITOR CH 4V 100U	1	
C6207		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6208		ECUX1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C6209		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C6210		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C6400		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
D202		1SS355	DIODE	1	
D203		RB751V40	DIODE	1	
D204,05		1SS355	DIODE	2	
D481,82		RB751V40	DIODE	2	
D1002		EC20QS06	DIODE	1	
D1006,07		MA132K	DIODE	2	
D1015		EC15QS04	DIODE	1	
D3001		MA132WK	DIODE	1	
D3002		1SS355	DIODE	1	
D3003		MA132WA	DIODE	1	
D3004		1SS355	DIODE	1	
D3005		MA133	DIODE	1	
D6001,02		MA132WA	DIODE	2	
D6003-05		1SS355	DIODE	3	
D6006		RB751V40	DIODE	1	
D6007		MA132WK	DIODE	1	
D6008		1SS355	DIODE	1	
D6011		MA132WK	DIODE	1	
D6012		MA132WA	DIODE	1	
D6016		MA133	DIODE	1	
D6018		RB751V40	DIODE	1	
D6201		1SS355	DIODE	1	
FL201		ELB3H009	FILTER	1	
FP701		VJS3319D018	CONNECTOR (FEMALE) 18P	1	
FP2001		VJS3654D007	CONNECTOR (FEMALE) 7P	1	
FP2002		VJS2958B018	CONNECTOR (FEMALE) 18P	1	
FP4001		VJS2958D009	CONNECTOR (FEMALE) 9P	1	
FP4002		VJS3320D026	CONNECTOR (FEMALE) 26P	1	
FP5001		VJS2959B013	CONNECTOR (FEMALE) 13P	1	
FP6001		VJS2959B018	CONNECTOR (FEMALE) 18P	1	
FP6002		VJS2959B006	CONNECTOR (FEMALE) 6P	1	
FP6006		VJS3319D021	CONNECTOR (FEMALE) 21P	1	
IC201		MN5224	IC	1	
IC202		MN31121SA	IC	1	
IC203		NN2035FAQ	IC	1	
IC205		AN1358S	IC	1	
IC301		F432512APZ	IC	1	
IC302		M62366GP	IC	1	
IC303		TC7W74FU	IC	1	
IC308		TC7S04FU	IC	1	
IC701,02		TB6526F	IC	2	
IC706		NJM2115VA	IC	1	
IC710		MN1882421M7P	IC	1	
IC711		TA75W01FU	IC	1	
IC751		TA75S393F	IC	1	
IC1001		BA9706K	IC	1	
IC2001		TB6518F	IC	1	
IC2002,03		UN224	TRANSISTOR-RESISTOR	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC3001		HA118401F	IC	1	
IC4001		BA7758FS	IC	1	
IC5001		AN3355FHP	IC	1	
IC5501		MSM7470-73MS	IC	1	
IC6001		MN6755486M7R	IC	1	
IC6002		MM1273XFF	IC	1	
IC6003		BU6194FV	IC	1	
IC6004		S29355	IC	1	
IC6005		BA6289F	IC	1	
IC6006		TA75W393FU	IC	1	
IC6007		TC4W53F	IC	1	
IC6008		TC7W04F	IC	1	
IC6009		SC7S08F	IC	1	
IC6012		TC4W53F	IC	1	
L201		ELJFA330JB	COIL	1	
L202		VLQ0426J680	COIL 68UH	1	
L203		VLQ0426J820	COIL 82UH	1	
L204		ELJFA220JB	COIL 22UH	1	
L206-08		ELJFA220JB	COIL 22UH	3	
L212		VLQ0426J270	COIL 27UH	1	
L302,03		ELJPA220KB	COIL 22UH	2	
L402		ELJPA220KB	COIL 22UH	1	
L403		VLQ0426J470	COIL 47UH	1	
L404		ELJPA220KB	COIL 22UH	1	
L701,02		ELJPA220KB	COIL 22UH	2	
L703		ELJPA150KB	COIL 15UH	1	
L704,05		ELJPA220KB	COIL 22UH	2	
L708		ELJPA220KB	COIL 22UH	1	
L1001		VLQ0759	COIL	1	
L1002		VLQ0760	COIL	1	
L1003		VLQ0763	COIL	1	
L1004		ELJPA100KB	COIL 10UH	1	
L1006		ELJPA150KB	COIL 15UH	1	
L1007		VLQ0761	COIL	1	
L1008		VLQ0763	COIL	1	
L1010		ELJPA100KB	COIL 10UH	1	
L1011		ELJPA101KB	COIL 100UH	1	
L1012		ELJPA100KB	COIL 10UH	1	
L1014		ELJPA100KB	COIL 10UH	1	
L1015		ELJPA470KB	COIL 47UH	1	
L1062		VLQ0762	COIL	1	
L3001		ELJFA121JB	COIL	1	
L3002		ELJPA150KB	COIL 15UH	1	
L3003		ELJFA820JB	COIL 82UH	1	
L3004		ELJFA680JB	COIL 68UH	1	
L3005		ELJPA101KB	COIL 100UH	1	
L3006		ELJFA220JB	COIL 22UH	1	
L3007		ELJFA150JB	COIL 15UH	1	
L3010		ELJFA151JB	COIL 150UH	1	
L3011		ELJFA220JB	COIL 22UH	1	
L3021		ELJPA101KB	COIL 100UH	1	
L4005		ELJPA101KB	COIL 100UH	1	
L5001		ELJPA101KB	COIL 100UH	1	
L5002,03		ELJPA470KB	COIL 47UH	2	
L5004		ELJPA101KB	COIL 100UH	1	
L5501		ELJPA150KB	COIL 15UH	1	
L5502		ELJFA330JB	COIL 33UH	1	
L5503		ELJFA100JB	COIL 10UH	1	
L5504		ELJFA150JB	COIL 15UH	1	
L5506		ELJPA101KB	COIL 100UH	1	
L5507		ELJFA121JB	COIL 120UH	1	
L5508		VLQ0163J471	COIL	1	
L6002		ELJPA101KB	COIL 100UH	1	
LB209-11		VLP0154	INDUCTOR	3	
LB213		VLP0146	INDUCTOR	1	
LB301		VLP0305	COIL	1	
LB307		VLP0175	INDUCTOR	1	
LB308		VLP0140	COIL	1	
LB406		VLP0140	COIL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P302		VJP3172D010	CONNECTOR (MALE) 10P	1	
PP201		VJP3358A012	CONNECTOR (MALE)	1	
PP401		VJP2962A024	CONNECTOR (MALE) 24P	1	
PP3001		VJP3358C016	CONNECTOR (MALE) 16P	1	
PS1001		VJS2961A024	CONNECTOR (FEMALE) 24P	1	
Q201,02		2SD2216	TRANSISTOR	2	
Q203		2SB1462	TRANSISTOR	1	
Q205		XP4601	TRANSISTOR-RESISTOR	1	
Q404		XP4501	TRANSISTOR-RESISTOR	1	
Q405		2SD2216	TRANSISTOR	1	
Q701-03		XN4404	TRANSISTOR	3	
Q704		2SD601A	TRANSISTOR	1	
Q705		2SD2216	TRANSISTOR	1	
Q706		XN4404	TRANSISTOR	1	
Q751		2SD1030	TRANSISTOR	1	
Q1001		2SA1731-R	TRANSISTOR	1	
Q1003		MPL1	TRANSISTOR	1	
Q1004		2SD2210	TRANSISTOR	1	
Q1062		MPL1	TRANSISTOR	1	
Q3001		XP4501	TRANSISTOR-RESISTOR	1	
Q3002		XP4401	TRANSISTOR-RESISTOR	1	
Q3003,04		2SC4627	TRANSISTOR	2	
Q3008		2SD2216	TRANSISTOR	1	
Q3009		2SB1462	TRANSISTOR	1	
Q3010		2SD2216	TRANSISTOR	1	
Q3011		2SD1819A	TRANSISTOR	1	
Q3012		2SD2216	TRANSISTOR	1	
Q4002		2SD602-R	TRANSISTOR	1	
Q4003		2SB1219	TRANSISTOR	1	
Q4005		XP6501	TRANSISTOR-RESISTOR	1	
Q4006		2SD2216	TRANSISTOR	1	
Q4009		2SD2216	TRANSISTOR	1	
Q5001,02		XN4504	TRANSISTOR-TRANSISTOR	2	
Q5003		2SA812	TRANSISTOR	1	
Q5004		2SD1328-S	TRANSISTOR	1	
Q5502		XN4608	TRANSISTOR-TRANSISTOR	1	
Q6002		2SD2216	TRANSISTOR	1	
Q6004		2SB1462	TRANSISTOR	1	
Q6005		XP6501	TRANSISTOR-RESISTOR	1	
Q6006		2SB1462	TRANSISTOR	1	
Q6201		2SB1462	TRANSISTOR	1	
Q6400		2SD1819	TRANSISTOR	1	
QR401		MRN1103	TRANSISTOR-RESISTOR	1	
QR402		MRN1102	TRANSISTOR-RESISTOR	1	
QR701		MRN1102	TRANSISTOR-RESISTOR	1	
QR1001		MRN2102	TRANSISTOR-RESISTOR	1	
QR1061		MRN2111	TRANSISTOR-RESISTOR	1	
QR2002		MRN1111	TRANSISTOR-RESISTOR	1	
QR3001		MRN1103	TRANSISTOR-RESISTOR	1	
QR3006		MRN1104	TRANSISTOR-RESISTOR	1	
QR3007		MRN1103	TRANSISTOR-RESISTOR	1	
QR3008		MRN1104	TRANSISTOR-RESISTOR	1	
QR4001		MRN1103	TRANSISTOR-RESISTOR	1	
QR4002		MRN2103	TRANSISTOR-RESISTOR	1	
QR5502		UN2130X	TRANSISTOR-RESISTOR	1	
QR5503		MRN1103	TRANSISTOR-RESISTOR	1	
QR6002		XP4213	TRANSISTOR-RESISTOR	1	
QR6003		MRN2103	TRANSISTOR-RESISTOR	1	
QR6004		XP4115	TRANSISTOR-RESISTOR	1	
QR6005,06		MRN1104	TRANSISTOR-RESISTOR	2	
QR6007		MRN1102	TRANSISTOR-RESISTOR	1	
QR6010		XP1213	TRANSISTOR-RESISTOR	1	
QR6012		MRN1104	TRANSISTOR-RESISTOR	1	
QR6014		UN9210	TRANSISTOR-RESISTOR	1	
QR6015		MRN1111	TRANSISTOR-RESISTOR	1	
QR6050		XP1211	TRANSISTOR-RESISTOR	1	
QR6400		UN5213	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R201		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R202		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R203		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R204		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R206		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R207,08		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R210		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R214		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R215		VRE0082A753	M.RESISTOR CH 1/10W 75K	1	
R216		VRE0082A153	M.RESISTOR CH 1/10W 15K	1	
R217		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R218		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R219		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R220		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R221		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R222,23		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R224		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R225		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R226,27		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R228		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R236		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R239		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R240,41		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R242		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R243		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R246		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R247		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R248		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R249		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R250		VRE0071E123	M.RESISTOR 12K	1	
R251		VRE0071E223	M.RESISTOR 22K	1	
R301		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R302		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R303		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R304		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R305		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R306		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R307		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R308		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R310		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R312,13		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R314		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R315		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R321		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R323		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R325		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R327		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R333		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R335		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R336		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R337		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R411		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R412		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R413		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R415		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R417,18		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R419		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R420		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R422		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R423		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R424		ERJ3GEYJ132	M.RESISTOR CH 1/16W 1.3K	1	
R425		ERJ3GEYJ911	M.RESISTOR CH 1/16W 710K	1	
R426		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R428		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R429		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R430		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R481		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R701-04		ERJ3GEYJ3R3	M.RESISTOR CH 1/16W 3.3	4	
R705,06		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R707		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R708,09		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R716		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R717		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R718		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R719		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R720,21		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R722		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R723		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R724		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R725		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R726		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R727		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R728		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R729		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R730		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R731,32		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R733		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R734,35		ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2	
R736		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R737		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R738		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R740		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R751		ERJ3GEYJ335	M.RESISTOR CH 1/16W 3.3M	1	
R753		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R754		ERJ3GEYG113	M.RESISTOR CH 1/16W 11K	1	
R755		ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R756		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R757,58		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R761		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R770,71		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R1001		VRE0034E822	M.RESISTOR CH 1/10W 8.2K	1	
R1002		VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1005		VRE0071E472	M.RESISTOR CH 1/10W 4.7K	1	
R1006		VRE0071E272	M.RESISTOR CH 1/10W 2.7K	1	
R1007		ERJ8GEYJ330	M.RESISTOR CH 1/8W 33	1	
R1008		ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
R1009		VRE0071E152	M.RESISTOR CH 1/10W 1.5K	1	
R1012		VRE0067G20C	M.RESISTOR CH 1/10W	1	
R1013		VRE0067G393	M.RESISTOR 39K	1	
R1014,15		VRE0067G182	M.RESISTOR 1.8K	2	
R1016		VRE0071E153	M.RESISTOR 15K	1	
R1017		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1018		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1019		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1020		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R1021		ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R1022		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R1023		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R1024		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1025		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R1035		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R1038		VRE0071E510	M.RESISTOR CH 1/10W 51	1	
R1039		VRE0071E391	M.RESISTOR CH 1/10W 390	1	
R1040		VRE0071E121	M.RESISTOR CH 1/10W 120	1	
R1051		VRE0071E273	M.RESISTOR CH 1/10W 27K	1	
R1052		VRE0071E473	M.RESISTOR CH 1/10W 47K	1	
R1063		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R1065		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R1071		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R1072		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R1073		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R1080		ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R1085,86		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R2001		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2002		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R2003		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2004		ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R2005		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R2006		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R2007		ERJ8GEYJR47	M.RESISTOR CH 1/8W 0.47	1	
R2008		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2009		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R2010		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2012		ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R2015		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R2016		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R2017		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R2018		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2019,20		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	2	
R2021		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R2022		ERJ8GEYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2024		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R2040-42		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	3	
R3001		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3002		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R3003		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R3004		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3005		VRE0082A682	M.RESISTOR CH 1/10W 6.8K	1	
R3007		VRE0082A222	M.RESISTOR CH 1/10W 2.2K	1	
R3008-10		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R3012		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3013		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3014		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R3017		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3018		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3020		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3021		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3022		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R3023		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3025		VRE0082A681	M.RESISTOR CH 1/10W 680	1	
R3026		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3027		VRE0082A391	M.RESISTOR CH 1/10W 390	1	
R3031,32		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R3034		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3042		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3049		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R3051		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3052		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R3057		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3058		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3059		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R3060		VRE0082A820	M.RESISTOR CH 1/10W 82	1	
R3063		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R3070		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4001		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R4002		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4003		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4004		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4006		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R4007		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4008		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4009		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R4010		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4011		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R4012		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4013		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R4014		VRE0071E153	M.RESISTOR 15K	1	
R4016,17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R4018		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R4019		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4020		VRE0071E431	M.RESISTOR CH 1/10W 430	1	
R4021		VRE0071E562	M.RESISTOR 5.6K	1	
R4022		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4023		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4025		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4026		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R4027,28		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4029		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4030,31		ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R4032		VRE0071E272	M.RESISTOR CH 1/10W 2.7K	1	
R4033		VRE0071E152	M.RESISTOR CH 1/10W 1.5K	1	
R4034,35		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R4036,37		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R4038		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R4040		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4048		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R5001		ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R5002,03		ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	2	
R5004		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5005		VRE0082A113	M.RESISTOR CH 1/10W 11K	1	
R5007		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5008		ERJ6GEYJ4R7	M.RESISTOR CH 1/10W 4.7	1	
R5009		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R5012		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5501		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5503		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R5504		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R5507		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R5509		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5510		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R5512		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R5514		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5515		VRE0082A681	M.RESISTOR CH 1/10W 680	1	
R5516		ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R5517		VRE0082A101	M.RESISTOR CH 1/10W 100	1	
R5520		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R5550		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6001		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R6002		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6003		ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R6004		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R6005		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6006		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6007		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R6008		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6009		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6010		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6011		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6013		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6014		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6015		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6016		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6018		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6019		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6019		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6020		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6021		ERJ8GEYJ120	M.RESISTOR CH 1/8W 12	1	
R6022		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6023		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R6024		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6027		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6029		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6030		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6031		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6032		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6034		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6035		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6037,38		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R6039		ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6040		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6042		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6043		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6044		VRE0082A153	M.RESISTOR CH 1/10W 15K	1	
R6045		VRE0082A123	M.RESISTOR CH 1/10W 12K	1	
R6046		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R6049		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6055		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6056		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6058		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6059		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R6064		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R6065		ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R6066		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6067		ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
R6068		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6069		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R6070		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6071		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6072		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6073		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6074		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6075		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R6076		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6079		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R6080		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6082		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6085		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6086		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6087		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6088		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R6089		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R6090		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R6091		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R6095		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R6201		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6202		ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
R6203		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6204		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6205		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6206-08		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R6209		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R6210		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R6211		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R6400		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R6401		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R6402		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6403		ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
RA6001		EXBV8V102J	RESISTOR-RESISTOR	1	
RA6002		EXBV8V473J	RESISTOR-RESISTOR	1	
RA6003		EXBV4V102J	RESISTOR-RESISTOR	1	
RA6004,05		EXBV8V102J	RESISTOR-RESISTOR	2	
RA6006		EXBV4V473J	RESISTOR-RESISTOR	1	
RA6007		EXBV4V102J	RESISTOR-RESISTOR	1	
RA6008		EXBV4V104J	RESISTOR-RESISTOR	1	
RA6009		EXBV4V102J	RESISTOR-RESISTOR	1	
RA6010		EXBV4V473J	RESISTOR-RESISTOR	1	
RA6011		EXBV4V102J	RESISTOR-RESISTOR	1	
RA6013		EXBV8V102J	RESISTOR-RESISTOR	1	
RA6014		EXBV8V473J	RESISTOR-RESISTOR	1	
RA6015		EXBV8V683J	RESISTOR-RESISTOR	1	
T1001		ELL04T061R	COIL	1	
T1002		VTP0357	TRANSFORMER	1	
T4001		EIQ6QB008	TRANSFORMER	1	
VC308		ECRJA020E11	TRIMMER 2P	1	
X301		VSX0564	CRYSTAL OSCILLATOR	1	
X701		EF0S1205E5	CRYSTAL OSCILLATOR	1	
X5501		VSX0794	CRYSTAL OSCILLATOR	1	
X6001		VSX0654	CRYSTAL OSCILLATOR	1	
X6002		VSX0601	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC4419	POWER SHIELD COVER (TOP)	1	
		VSC4420	POWER SHIELD COVER (BOTT.)	1	
		VSC4082	H.A SHIELD COVER (TOP)	1	
		VSC4424	CAMERA SHIELD COVER (BOTT.)	1	
		VSC4183	POWER HEAT SINK	1	
		VMZ2371	POWER HEAT SINK BARRIER	1	
		VMZ2278	SCREW BARRIER	1	
		VMZ2510	LENS SHIELD BARRIER	1	
	■	VEP28229A	E.V.F. C.B.A.		(RTL)
C801		ECQV1H104JL	P.CAPACITOR 50V 0.1U	1	
C802-04		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	3	
C805		ECEA0JKE221	E.CAPACITOR 6.3V 220U	1	
C806		ECUX1C123KBV	C.CAPACITOR CH 16V 0.012U	1	
C807		ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C809		ECA1CKF470	E.CAPACITOR 16V 47U	1	
C810		ECUM2A562JUM	C.CAPACITOR CH100V 5600P	1	
C811		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C812		ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C813		ECUM2J221KBM	C.CAPACITOR CH630V 220P	1	
C814		ECEA1HSN010	E.CAPACITOR 50V 1U	1	
C815		ECUM2H331KBM	C.CAPACITOR CH500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C818		ECUX1H390JCV	C.CAPACITOR CH 50V 39P	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1603		ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
D803		MA142WA	DIODE	1	
D1601		MA8130-M	DIODE	1	
D1603		MA8130-M	DIODE	1	
IC801		AN2516S	IC	1	
J1601		VEK7724	RFU	1	
L801		VLQ0319K100	COIL 10UH	1	
L802		ELH5L244	COIL	1	
L804		VLQ0163J680	COIL 68UH	1	
L805		VLQ0319K100	COIL 10UH	1	
L806		VLQ0426J330	COIL 33UH	1	
L1601,02		VLP0307	COIL	2	
P801		VJP1597T	CONNECTOR (MALE) 4P	1	
P803		VJP1596T	CONNECTOR (MALE) 3P	1	
P804		VJP1242T	CONNECTOR (MALE) 2P	1	
P1601		VJP3125D002	CONNECTOR (MALE) 2P	1	
PP1601		VJP3126B024	CONNECTOR (MALE) 24P	1	
Q801		2SB1462	TRANSISTOR	1	
Q802		2SD968A-S	TRANSISTOR	1	
Q803,04		2SA1748	TRANSISTOR	2	
R801		ERJ6ENF4422	M.RESISTOR CH1/10W 2.2K	1	
R802		ERJ6GEYJ3R9	M.RESISTOR CH 1/10W 3.9	1	
R803		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R804		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R806		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R807		ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	1	
R808		VRE0071E242	M.RESISTOR CH 1/10W 2.4K	1	
R809		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R810		VRE0071E104	M.RESISTOR 100K	1	
R815		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R816,17		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	2	
R818		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R819,20		ERJ6GEYJ275	M.RESISTOR CH 1/10W 2.7M	2	
R821		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R823		ERJ3GEYJ120	M.RESISTOR CH 1/16W 12	1	
R829		ERJ6ENF4222	M.RESISTOR CH 1/10W 2.2K	1	
R833		ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R834		ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R835		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R840		ERJ8GEYJ685	M.RESISTOR CH 1/8W 6.8M	1	
R841,42		ERJ6GEYJ475	M.RESISTOR CH 1/10W 4.7M	2	
R843		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R844		ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R845		ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R850		VRE0071E822	M.RESISTOR CH 1/10W 8.2K	1	
R851		VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R852		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R853		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R855		ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R865		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R884		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1601		VSF0226D25T	IC PROTECTOR	1	<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1602		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R1603		ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R1699		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R1724		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R1726		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R1727		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
T801		ECXC2802B	TRANSFORMER	1	
VR801		EVM7JSX30BE2	V.RESISTOR	1	
VR803		EVMLRGA00BV6	V.RESISTOR	1	
VR804		EVM7BSX30B26	V.RESISTOR 2M	1	
Z1601		VL2330/1HF	LITHIUM BATTERY	1	
			MISCELLANEOUS		
		VMP4952	DC JACK EARTH ANGLE	1	
	■	VEP22248A	CCD FLEX. CARD C.B.A.		(RTL)
B291		VJS3500C012	CONNECTOR (FEMALE) 12P	1	
C292		ECST1VX225Z	T.CAPACITOR 35V 2.2U	1	
C293,C294		ECUM1E473ZFN	C.CAPACITOR 25V 0.047U	2	
C295		ECUM1E104ZFN	C.CAPACITOR 25V 0.1U	1	
D291		MA153	DIODE	1	
Q291		2SC2295	TRANSISTOR	1	
R291		ERJ6GEYG560	M.RESISTOR CH 1/16W 56	1	
R292		ERJ6GEYF472	M.RESISTOR CH 1/16W 4.7K	1	
R293		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
			MISCELLANEOUS		
		VJB22248	FLEX. CARD	1	
	■	VEK7800	LENS FLEX. CARD C.B.A.		(RTL)
			MISCELLANEOUS		
		ON1004-R	PHOTO SENSOR	1	
		SG-211S	PHOTO SENSOR	1	
	■	VEK7705	MIC C.B.A.		(RTL)
C4801		ECUM1C823KBN	C.CAPACITOR CH 16V 0.082U	1	
C4803		ECUM1H273KBN	C.CAPACITOR CH 50V 0.027U	1	
C4804		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4805,06		ECUM1H273KBN	C.CAPACITOR CH 50V 0.027U	2	
C4807		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
FP4801		VJS3623A008W	CONNECTOR (FEMALE) 8P	1	
Q4801-03		2SD601A	TRANSISTOR	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4801		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4802		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4803		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R4804		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4805		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R4806		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4807		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4808,09		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	2	
R4810		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4811		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
			MISCELLANEOUS		
		VEK7708	ECM UNIT	1	
	■	VEP00X57B	AV JACK C.B.A.		
C1501		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C1502		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C1504		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C1505		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C1506		ECUM1C683KBN	C.CAPACITOR CH 16V 0.068U	1	
D1501		MA153	DIODE	1	
FP1501		VJS2582B009	CONNECTOR (FEMALE) 9P	1	
J1501		VEJ1378	AV JACK PLATE	1	
L1501		VLP0171	COIL	1	
L1502		VLQ0584	COIL	1	
L1503		VLP0153	FERRITE BEAD	1	
R1501		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
			MISCELLANEOUS		
		VMP5124	EARTH ANGLE	1	
	■	VEP00X54A	EJECT/BLC C.B.A.		(RTL)
SW511		ESD165236	SWITCH	1	
	■	VEP00V80A	S/S C.B.A.		(RTL)
S6702		ESE103119	SWITCH	1	
	■	VEP00X56A	FRONT OPERATION C.B.A.		(RTL)
FP501		VJS2949B009	CONNECTOR (FEMALE) 9P	1	
S501		EVQPA205R	SWITCH	1	
VR501		EVJ4Y0FB4B15	V.RESISTOR 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P.C.B.	FILM CODE
AV JACK	HOKU00-00X57
CAMERA/MAIN	HOKU00-23292
EVF	HOKU00-28229
CCD FLEXIBLE CARD	HOKU00-22248
S/S & POWER SW	HOKU00-00V80
MIC	HOKU00-04635
EJECT/BLC	HOKU00-00X54
FRONT OPERATION	HOKU00-00X56

ORDER NO. VMD9512M137

Service Manual

Adjustment Procedures (E.V.R.)

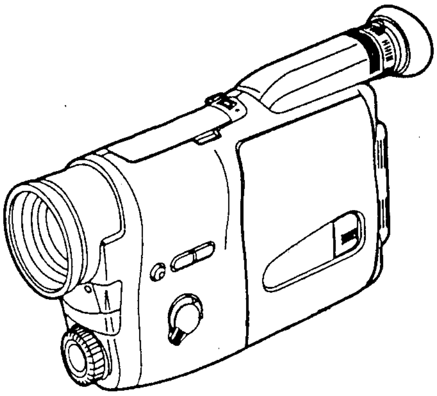
Panasonic VHS C

VHS
PAL

HQ

VHS-C Movie

NV-RX1 EG/B A/EN
NV-RX2 EG/B A/EN



TEST EQUIPMENT AND TOOLS FOR E. V. R ADJUSTMENT

ITEM	ORDER NO	NOTE	ITEM	ORDER NO	NOTE
1. TEST EQUIPMENT	—		Aligment Tape	VFM8180HUPF	(PAL:VHS-C)
Oscilloscope	—				
Digital Volt Meter	—		2. Extension Cable		
Frequency Meter	—		Connecting Cable	VFK0766A	(5Pin)
Vectorscope	—		Connecting Cable	VFK0734W	(24Pin)
Colour Video Monitor	—		Extension Cable	VFK0668	(24Pin)
Light Meter	—				
Tripod	—				
Lighting*	—				
Gray Scale chart	—	Reflection			
Colour chip chart	—				
Colour Bar chart	—				
*Collimator unit	VFK1164TCM01				
EVR FIXTURE	VFK0644				
ROM32	VFK0701ROM32		3. Movie Light Box	VRD931MLB	
Colour Tempeature Conversion Filter	VFK0374	C12 Filter	4. Chart for Movie Light Box		
	VFK0713		Colour Bar Chart	VFK0875S	
	VFK0375	C2 Filter	Gray Scale chart	VFK0871S	
	VFK0716				

*Lighting Condition = 140-foot candles(1400 lux) on the chart surface 3100° K
*Collimator is infinite Ray Lens unit.

Panasonic

© 1996 Matsushita Electric Industrial Co., Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

⚠ **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This Manual contains adjustment procedure for using E.V.R which will allow service personneles to understand adjustment for using E.V.R of this Series. Follwing Item descrived on separete volume.

Model. No.	Order. No.	Contents
NV-RX1A/B/EG NV-RX1EN	VMD9512M136	SECTION 1 : General Description. SECTION 2 : Adjustment Procedure. ① Disassembly/assembly procedure ② Electric Adjustment for VCR section
NV-RX2A/B/EG NV-RX2EN	VMD9601M108	SECTION 3 : Block Diagram & Schematic Diagram SECTION 4 : Exploded View & Parts List

CONTENS

1. SETUP FOR ADJUSTMENT 1

2. E.V.R & NEW ROM(VFK0701ROM32) DESCRIPTION 2
   2-1. GENERAL DESCRIPTION 2
   2-2. MACRO OPERATION 2
   2-3. ERROR INDICATION 3

3. COMPOMENT REPLACEMENT & ADJUSTMENT 3

4-1 ASSISTANCE OF ADJUSTMENT REQUIREMENT 4
4-2. HOW TO READ THE ADJUSTMENT TABLE 4
4-3. LOCATION OF TEST POINT & CONTROLS 5

5. E.V.R ADJUSTMENT FOR CAMERA SECTION 6
   5-1. ZOOM ENCODER & FOCUS ENCODER(FREE ADDRESS) 6
   5-2. PLL OSC FREQUENCY ADJUSTMENT 6
   5-3. HALL AMP ADJUSTMENT 6
   5-4. PWM ADJUSTMENT 6
   5-5. V-SUB ADJUSTMENT 6
   5-6. PEDESTAL LEVEL ADJUSTMENT 6
   5-7. AGC ADJUSTMENT 6

   5-8. A/D INPUT LEVEL ADJUTMENT 8
   5-9. ALC ADJUSTMENT 8
   5-10. BURST LEVEL ADJUSTMENT 8
   5-11. PRE WHITE BALANCE ADJUSTMENT FOR INDOOR 8
   5-12. PRE WHITE BALANCE ADJUSTMENT FOR OUTDOOR 8
   5-13. INDOOR WHITE BALANCE ADJUSTMENT 8

   5-14. COLOUR PHASE & GAIN ADJUSTMENT(INDOOR) 10
   5-15. OUTDOOR WHITE BALANCE ADJUSTMENT 10
   5-16. COLOUR PHASE & GAIN ADJUSTMENT(OUTDOOR) 10
   5-17. DATA WRITING FOR COLOUR REPRODUCTION & WHITE BALNCE 10

6. E.V.R ADJUSTMENT FOR VTR SECTION 12
   6-1. CHOMINANCE RECORDING CURRENT ADJUSTMENT 12
   6-2. LUMINANCE RECORDING CURRENT ADJUSTMENT 12
   6-3. PG SHIFTER ADJUSTMENT 12

7. ADDTIONAL INFORMATION FOR E.V.R 14
   7-1. GENERAL DESCRIPTION 14

1. SETUP FOR ADJUSTMENT

The standard setting and preparation for camera adjustment is as shown below.
NOTE: Fig. C1 for Adjustment of Camera Section

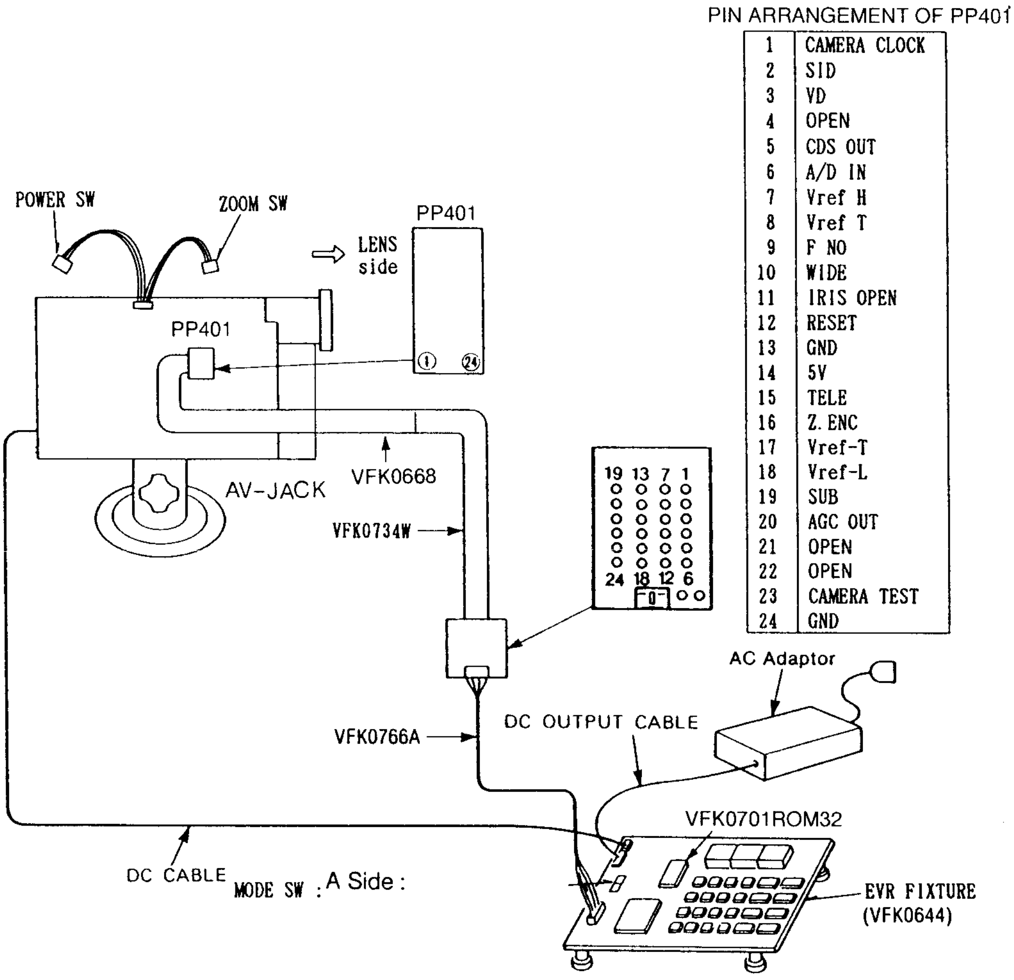
1). Prepare the test equipment and tools for Camera unit adjustment which listed on cover page.
2). Remove the side case refering disassembly method. (See Service Manual.)

3). Put the ROM IC(VFK0701ROM32) on the E.V.R Fixturte.
4). Connect the E.V.R Fixture and equipments as shown in Fig. C1.
5). Set the mode select switch on E.V.R fixture according to Model. No. as follows.

NV-RX1A/B/EG : NV-RX1EN NV-RX2A/B/EG NV-RX2EN	Set the Mode Switch on E.V.R Fixture to "A" side.

6). Turn on the Movie Camera Power SW.

7). Turn on the E.V.R. Fixture Power SW.
The LED display on E.V.R. Fixture will indicate "08.80.00".
(If not, push the Reset button and/or check the cable connections between E.V.R./camera cable connections.
If an error is occurs, see next page at "Error Indication" part.)
8). Set the AE dial to"Manual".
9). Use 3100 degrees kelvin light source for lighting.
10). To trigger the oscilloscope, use Video out.
11). Service work for camera unit must be performed in a dust free location to maintain the lens cleanliness.


POWER SW
ZOOM SW
LENS side
PP401
PP401
① ㉔
AV-JACK
VFK0668
VFK0734W
19 13 7 1
24 18 12 6
VFK0766A
DC OUTPUT CABLE
AC Adaptor
VFK0701ROM32
DC CABLE
MODE SW : A Side :
EVR FIXTURE
(VFK0644)

PIN ARRANGEMENT OF PP401

1	CAMERA CLOCK
2	SID
3	VD
4	OPEN
5	CDS OUT
6	A/D IN
7	Vref H
8	Vref T
9	F NO
10	WIDE
11	IRIS OPEN
12	RESET
13	GND
14	5V
15	TELE
16	Z.ENC
17	Vref-T
18	Vref-L
19	SUB
20	AGC OUT
21	OPEN
22	OPEN
23	CAMERA TEST
24	GND

NOTE:
*. During servicing, connection of Power SW (which is located on Side Case (L)) must be connected.
*. For easy servicing, remove the 3 parts from the SIDE CASE (L) as shown below.
1). Zoom SW....... (By removing 1 screw.)
2). Power SW...... (By removing 2 screws.)
3). AV JACK....... (By removing 2 screws.)

Fig. C1

2. E.V.R. & NEW ROM DESCRIPTION

2-1. GENERAL DESCRIPTION

The new ROM IC VFK0701ROM32 was devel opoped.
Effective model is NV-RX1A/B/EG/EN and NV-RX2A/B/EG/EN

NV-RX1A/B/EG/EN: Set the Mode Switch on E.V.R
NV-RX2A/B/EG/EN: Fixture to "A" side.

2-2. MACRO OPERATION.

The following operation is provied to transfer the data by one touch.
Button to be pushed at same time.

[Mode SW : "A" Side for NV-RX1A/B/EG/EN/NV-RX2A/B/E/EN

No.	Buttons to be pushed [Push these together]	OPERATIONS
1	[SHIFT 1] + [0]	Fully opens the IRIS.
2	[SHIFT 1] + [1]	Fully closes the IRIS.
3	[SHIFT 1] + [2]	IRIS is turned to Manual Condition.
4	[SHIFT 1] + [3]	IRIS is turned to Original Condition. (AUTO)
5	[SHIFT 1] + [4]	WHITE set.
6	[SHIFT 1] + [5]	Zooms to "WIDE" position.
7	[SHIFT 1] + [6]	Stops the Zoom.
8	[SHIFT 1] + [7]	Zooms to "TELE" position.
9	[SHIFT 1] + [9]	Minimizes AGC Gain.
10	[SHIFT 1] + [A]	Maximizes AGC Gain.
11	[SHIFT 1] + [B]	AGC is returned to Original Condition.
12	[SHIFT 1] + [C]	Focuses to "MANUAL" Condition.
13	[SHIFT 1] + [D]	Focuses to "AUTO" Condition.
14	[SHIFT 1] + [E]	Pre-Indoor White Balance Adjustment
15	[SHIFT 1] + [F]	Pre-Outdoor White Balance Adjustment
17	[SHIFT 2] + [0]	Turns FADE ON. (BLACK FADE).
18	[SHIFT 2] + [1]	Turns FADE OFF.
19	[SHIFT 2] + [3]	Turns speed to 1/250sec.
20	[SHIFT 2] + [5]	Indoor White Balance data writing (Data transmission ⇨ RAM to EEPROM)
21	[SHIFT 2] + [6]	Outdoor White Balance data writing (Data transmission ⇨ RAM to EEPROM)
22	[SHIFT 2] + [B]	Indoor Phase and Gain data writing (Data transmission ⇨ RAM to EEPROM)
23	[SHIFT 2] + [C]	Outdoor Phase and Gain data writing (Data transmission ⇨ RAM to EEPROM)
24	[SHIFT 2] + [D]	Automatically calculates colour detection and writes the data to the EEPROM
25	[SHIFT 2] + [F]	ZOOM/FOCUS Encorder auto adjustment & data writing
24	[RESET] + [0]	Writes the fixed data and all average data to the EEPROM for NV-RX1EG
25	[RESTE] + [1]	Writes the fixed data and all average data to the EEPROM for NV-RX1A/B/EN/ENH
26	[RESET] + [2]	Writes the fixed data and all average data to the EEPROM for NV-RX2EG
27	[RESTE] + [3]	Writes the fixed data and all average data to the EEPROM for NV-RX2A/B/EN/ENH

Fig. A2

2-3. ERROR INDICATION

If an error occurs while E.V.R. fixture is operating display one of the error messages listed in Fig. A3.

Error No.	Contens of Error	Simple checking method
1	Set the wrong command number	
2	Set the wrong Address number	
3	VD signal from camera not coming	TP lead wire may be cut
4~6	Detect the error during communication	TP lead wire may be cut
7	Writing error in the EEPROM of camera	Command or address cure wrong
8	Communication error in the EEPROM of camera	Same as above

Fig. A3

3. COMPONENT REPLACEMENT AND ADJUSTMENT REQUIREMENT

When you replace following components, each adjustment are required as shown below.

Component	Adjustment Required	Page
MAIN C.B.A. IC6004(EEPROM)	Writes all fixed & average data with Macro operation. Then check all adjustment if necessary.	Page (See Fig. A5)
CCD UNIT	White Balance & Colour Phase/Gain Adjustment(Indoor/Outdoor) Colour reproduction(Macro operation) Focus & Zoom Encorder Adjustment	Page 10~12 Page 12 Page 6
LENS UNIT Lens Flex Card C.B.A	Focus & Zoom Encorder Adjustment	Page 6

Fig. A4

NOTE : When replacing the MAIN C.B.A. or IC6004(EEPROM), Fixed & Average data must be written macro operation first, if not, Movie Camera will not work correctly when all adjustments are finished.

4. ASSISTANCE OF ADJUSTMENT REQUIREMENT

When replacing the MAIN C.B.A. or IC6004(EEPROM), all adjustment items must be checked.
If necessary adjustment are required after Fixed & Average data are stored with macro operation..
Each adjustment is important. No-adjust or miss-adjustment will cause problems.
As reference, see following table.

Symptom	Description	Adjustment Required	Page
*. POOR FOCUSING	·Focus hunting or focus stops	·HALL AMP ADJ.	Page 6
	·Lens does not focus through full zoom range	·FOCUS & ZOOM ENCORDER ADJUSTMENT	Page 6
*. COLOUR LOSS	·The blooming appears on the picture	·V-SUB ADJUSTMENT	Page 6
*. PICTURE BLIGHTNESS (SHOOTING)	·Picture is too dark or too blight	·PWM ADJUSTMENT ·HALL AMP ADJUSTMENT ·AGC ADJUSTMENT ·ALC ADJUSTMENT ·PEDESTAL LEVEL ADJUSTMENT ·A/D INPUT LEVEL ADJUSTMENT	Page 6 Page 6 Page 6 Page 8 Page 8 Page 8
*. PICTURE POOR COLOUR (SHOOTING)	·Picture is Reddish or Bluish	·PEDESTAL LEVEL ADJUSTMENT	Page 8
	·Red or Blue colour shift. (Seen on the monitor or with vectorscope.)	·WHITE BALANCE ADJUSTMENT(IN/OUT DOOR)	Page 8~10
	·If there is a picture but wrong colour or intensity level.	·AUTO CALCULATION FOR COLOUR REPRODUCTION & DETECTION	Page 10
*. REC./PLAYBACK PICTURE	·Weak picture colour Record. ·Beat seen in the picture.	·RECORDING CURRENT (CHROMINANCE) ADJUSTMENT	Page 12
	·S/N ration is low. ·Video signal overload (saturation)	·RECORDING CURRENT (LUMINANCE) ADJUSTMENT	Page 12

Fig. A5

1. Order of Adjustment

(1) SIGNAL INPUT or Test Chart	(2)TEST POINT	(3)CONDITION/PRESET With EVR or other	(4) HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6)HOW TO DATA WRITING EVR
Test chart & Signal Input for Adjustment	Connect the oscilloscope or equipment to test point	⇨ Set up the Camera Unit for Adjustment with Test Chart etcs.	⇨ Order of Adjustment How to control the signal levelat test point.		⇨ After Adjustment How to rewrite the data into EEPROM with EVR fixture.

2. Detail for Adjustment ／Example: AGC LEVEL ADJUSTMENT

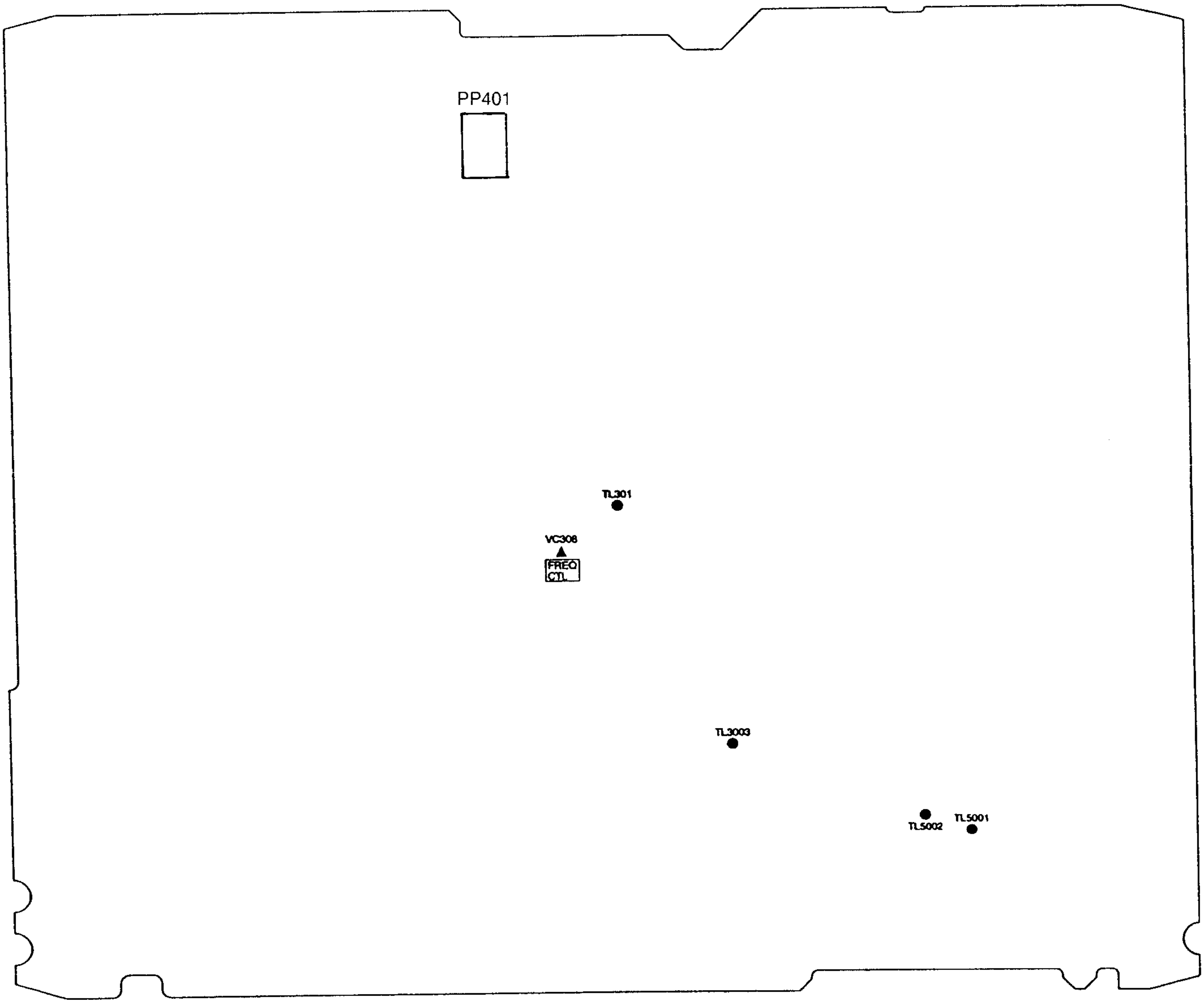
(1) SIGNAL INPUT or Test Chart	(2)TEST POINT	(3)CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6)HOW TO DATA WRITING EVR
Aim the Camera at Gray-Scale Chart	Connect the oscilloscope to B401- ⑳ (VFK0734W-⑳)	①Push the following key for Set the IRIS Manual SHIFT 1 + 2 ② Shoot the Gray Scale Chart ③Push the following keys in order. CMD 3 8 ADR B A or B B push the INC or DEC unti Level at PP401- ⑤ is 300mV ±20mV.) (change the data for Address B A & B B until Level at PP401 ⑤ is 300mV ±20mV.)	Push the following keys in order. CMD 3 8 ADR D E and then push INC or DEC unti Level at PP401 ⑳ is 280mV ±20mV	Signal level at PP401- ⑳ is 300mV±20mV (To see Fig. C10)	Push the following keys in order for data writing. CMD 0 2 ADR A 8 SET Data does not change after adjustment.

NOTE: CMD 3 8

⇨This symbol is key on the EVR-fixture.

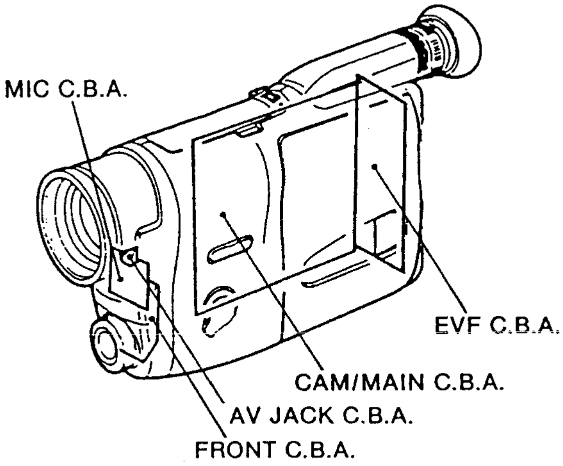
LOCATION OF TEST POINTS & CONTROLS

CAM/MAIN C.B.A.


PP401
TL301
VC308
FREQ CTL
TL3003
TL5002
TL5001

(FOIL SIDE)

CIRCUIT BOARD LAYOUT


MIC C.B.A.
EVF C.B.A.
CAM/MAIN C.B.A.
AV JACK C.B.A.
FRONT C.B.A.

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-1 Focus/Zoom Encorder	Hunting Chart with Collimator	———	①Zoom Full Tele SHIFT 1+7	Please Push the following key for adjustment of Focus/Zoom Encoder adjustment & data writing.. SHIFT 2+F		
		Note: Please attach the Collimator with Hunting chart to front of lens unit so that picture on TV screen is centered. (Shown in fig.C1)		After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto		
5-2. PLL OSC FREQUENCY	———	TL301	① Connec the Frequency Countor to TL301.	Turn the VC308	19.3125MHz± 250Hz 200Hz	———
5-3 HALL AMP-1	———	PP401- ⑨ (VFK0734W-⑨)	① IRIS Close. Connect the Jumper-Wire between PP401-⑪ and GND ②Take Note the Voltage at PP401- ⑱	CMD 4 8 ADR B 3 INC or DEC	Voltage at PP401- ⑨= PP401- ⑱±10mV	CMD 0 2 ADR A 6 SET
				After Adjustment, please remove the Jumper-Wire.		
HALL AMP-2	———	PP401- ⑨ (VFK0734W-⑨)	① IRIS open. Connect the Jumper-Wire between PP401- ⑪ and PP401- ⑭ ②Take Note the Voltage at PP401-⑦.	CMD 4 8 ADR B 4 INC or DEC	Voltage at PP401- ⑨= PP401- ⑦±30mV	CMD 1 2 ADR A 7 SET
				After Adjustment, please remove the Jumper-Wire.		
5-4 PWM		PP401- ⑨ (VFK0734W-⑨)	①IRIS Open SHIFT 1+0 ②Connect the D.V.M. at PP401-⑦. ③ Make note voltage at PP401-⑦. ④Connect the D.V.M. at PP401-⑨.	CMD 4 8 ADR B 5 INC or DEC	Voltage at PP401- ⑨= (PP401- ⑦−80mV) ±20mV	CMD 0 2 ADR A 7 SET
				After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto		
5-5 V-SUB	U-Shape Chart	Monitor TV	①Zoom Full Tele SHIFT 1+7 ②IRIS Open SHIFT 1+0 ③Shoot the Camera U-Shape Chart with Halogen-Lamp (To see Fig.C2)	CMD 4 8 ADR B 0 INC or DEC	No-Blooming	CMD 1 2 ADR A 5 SET
				After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto		
5-6 PEDESTAL LEVEL	———	PP401- ⑥ (VFK0734W-⑥)	①AGC maximies SHIFT 1+A ② IRIS Close SHIFT 1+1 ③ Connect the oscilloscope to PP401- ④	CMD 4 8 ADR B 6 INC or DEC	A = Less than 25mV±20mV (To see Fig.C3)	CMD 1 2 ADR A 8 SET
				After Adjustment push the following keys SHIFT 1+3 : Iris return to Auto SHIFT 1+B : AGC return to Auto		
5-7 AGC LEVEL	Gray-Scale Chart	PP401-⑳ (VFK0734W-⑳)	① IRIS Manual SHIFT 1+2 ② Shoot the Gray Scale Chart ③ CMD 3 8 / ADR B A & B B / INC or DEC ④Level at PP401- ⑤ is 300mV ±20mV (To see Fig.C4)	CMD 3 8 ADR D E INC or DEC	Signal level at PP401- ⑳ is 300mV±20mVp-p (To see Fig.C5)	CMD 0 2 ADR A 8 SET
				After Adjustment push the following keys SHIFT 1+3 Iris return to Auto		

Fig. C1－1 (HUNTING CHART WITH COLLIMATOR)

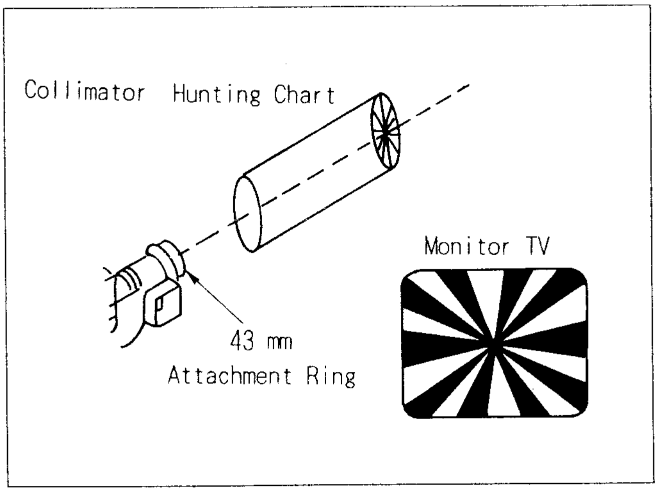

Collimator
Hunting Chart
Monitor TV
43 mm
Attachment Ring

Fig. C1－2 (COLLIMATOR)

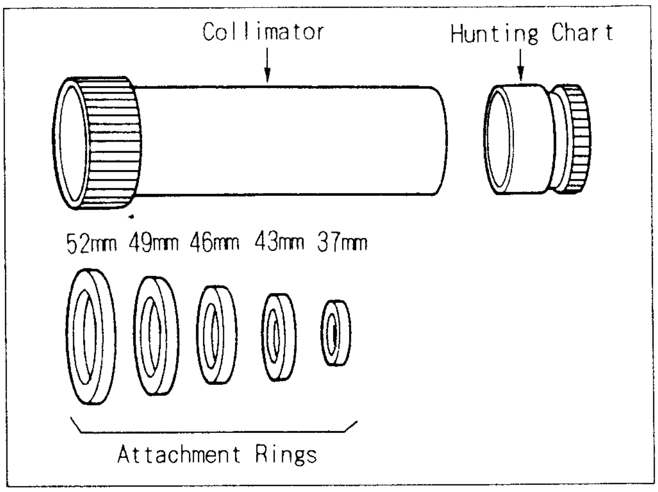

Collimator
Hunting Chart
52mm 49mm 46mm 43mm 37mm
Attachment Rings

Fig. C2 (U-Shape Chart & V-sub adjustment)

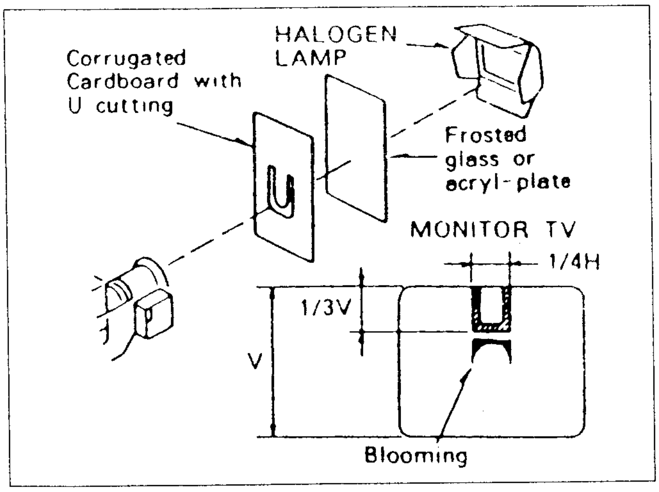

HALOGEN LAMP
Corrugated Cardboard with U cutting
Frosted glass or acryl-plate
MONITOR TV
1/4H
1/3V
V
Blooming

Fig. C3 (PEDESTAL LEVEL)

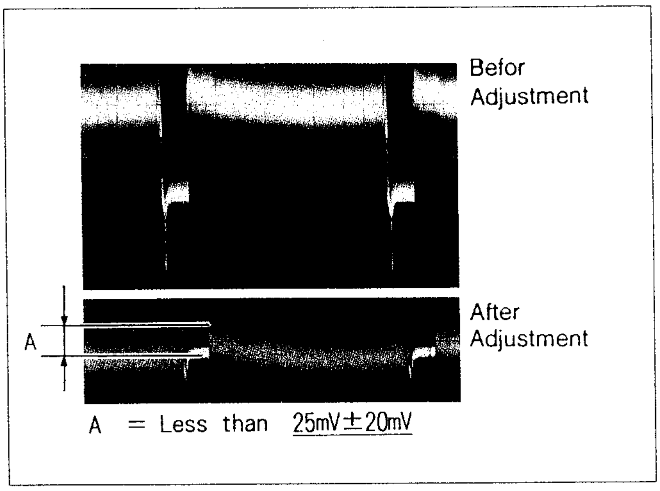


Fig. C4 (AGC ADJUSTMENT PRESET)

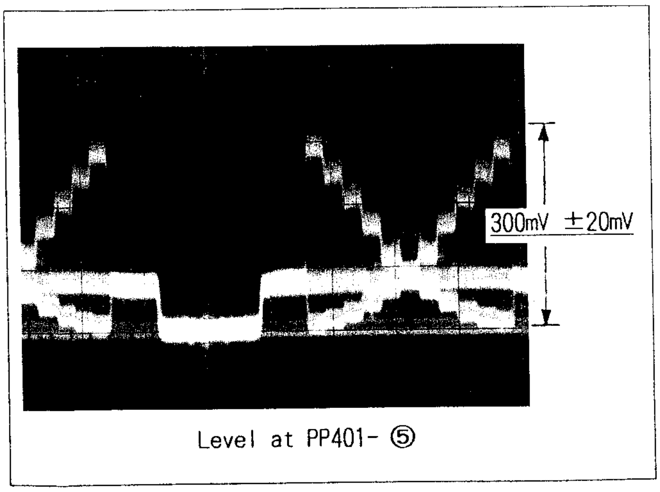
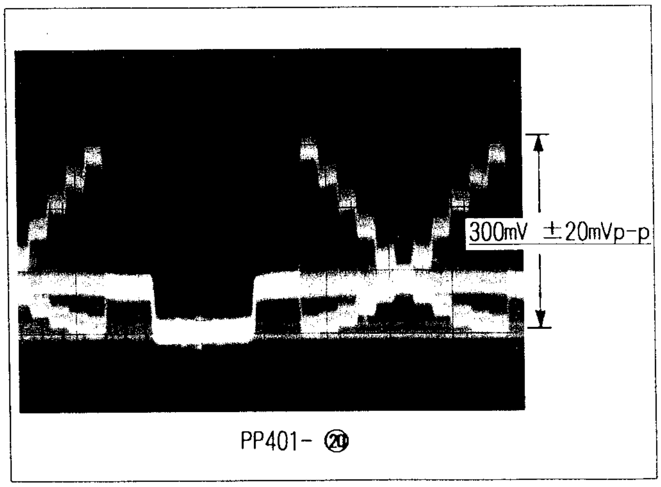


Fig. C5 (AGC LEVEL)



ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-8 A/D INPUT LEVEL	Gray-Scale Chart	PP401- ⑥ (VFK0734W-⑥)	① IRIS Manual SHIFT 1 + 2 ② Shoot the Gray Scale Chart ③ CMD 3 8 ADR B A & B B INC or DEC ④Level at PP401- ⑤ is 300mV ±20mV (To see Fig. C6)	CMD 4 8 ADR B 8 INC or DEC	Signal level at PP401- ⑥ becomes 700±30mVp-p.	CMD 1 2 ADR A 9 SET
				After Adjustment push the following keys SHIFT 1 + 3 Iris return to Auto		
5-9 ALC	Gray-Scale Chart	PP401- ⑥ (VFK0734W-⑥)	① IRIS Auto SHIFT 1 + 3 ② Connect the oscilloscope to PP401- ⑥.	CMD 3 8 ADR D 4 INC or DEC	Signal level at PP401- ⑥ is 700±30mVp-p	CMD 1 2 ADR A 4 SET
5-10 BURST LEVEL	————	Video Out (75Ω Terminated)	① IRIS Close SHIFT 1 + 1 ② Connect the oscilloscope to Video Out.	CMD 2 8 ADR D D INC or DEC	Burst level is 300mV ±45mV (To see Fig. C9)	CMD 1 2 ADR A D SET
5-11 WHITE-BALANCE PRE ADJUSTMENT (INDOOR)	WHITE CHART	Video Out Signal on Vectorscope	① Shoot the White Chart ② Connect the Video-out to Vectorscope.	————	Push the following keys。 (for White Set & data writing) SHIFT 1 + E (When push the above keys, vector shifted little bit. Please refer to Fig. C10)	
5-12 WHITE-BALANCE PRE ADJUSTMENT (OUTDOOR)	WHITE CHART	Video Out Signal on Vectorscope	① Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716	————	Push the following keys。 (for White Set & data writing) SHIFT 1 + F (When push the above keys, vector shifted little bit. Please refer to Fig. C11)	
				After Adjustment, Turn Off & On the Power switch.		
5-13 WHITE BALANCE (INDOOR)	WHITE CHART	Video Out Signal on Vectorscope	① Shoot the White Chart ② Connect the Video-out to Vectorscope. ③ White Set with White Chart SHIFT 1 + 4 (Confirm the vector comes to centre)	————	Centre of Vectorscope (To see Fig. C12)	Indoor White Balance Data Writing SHIFT 2 + 5

Fig. C6 (A/D INPUT PRESET)

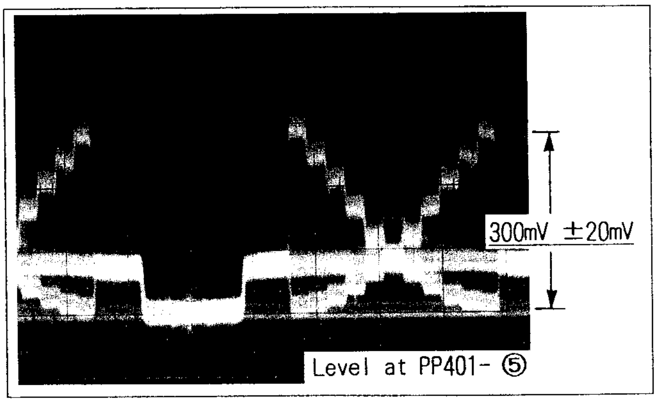


Fig. C7 (A/D INPUT LEVEL)

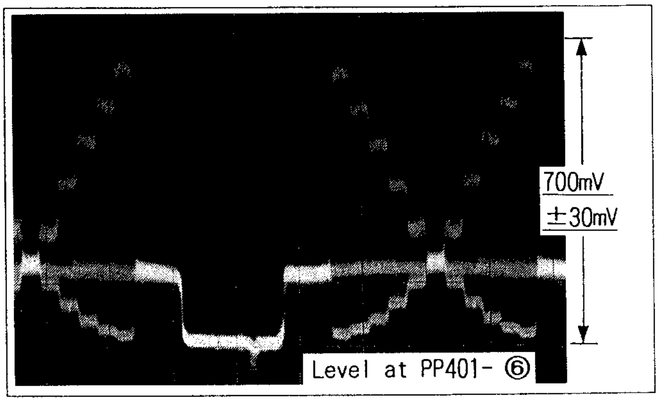


Fig. C8 (ALC LEVEL)

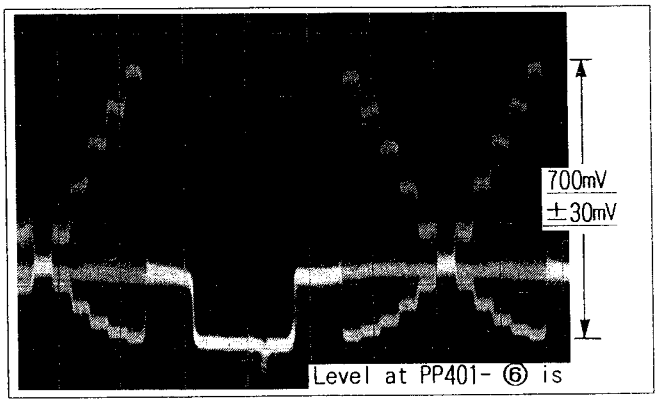


Fig. C9 (BURST LEVEL)

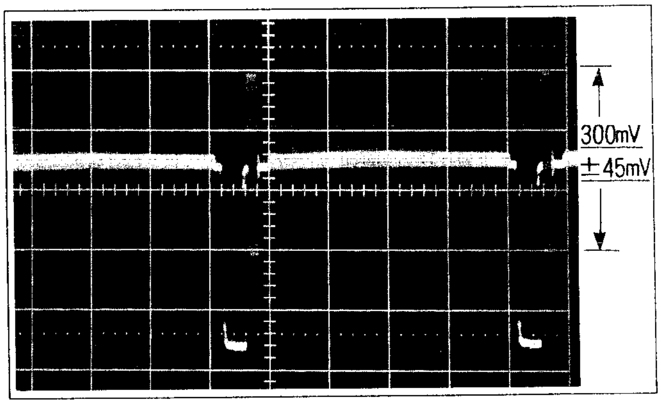


Fig. C10 (WHITE BALANCE PRESET/INDOOR)

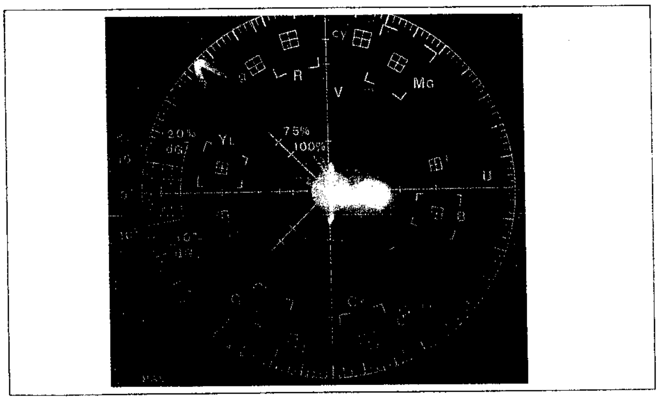


Fig. C11 (WHITE BALANCE PRESET/OUT DOOR)

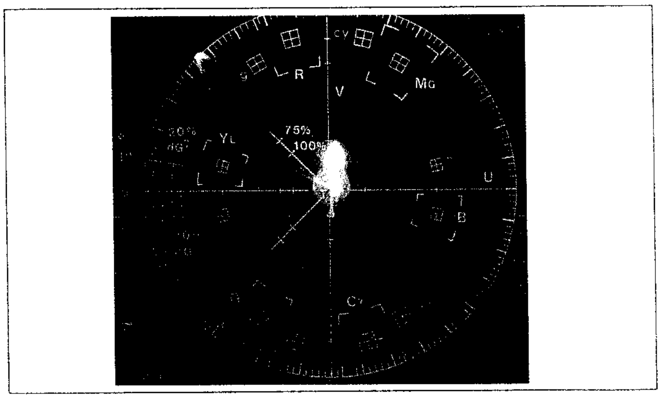
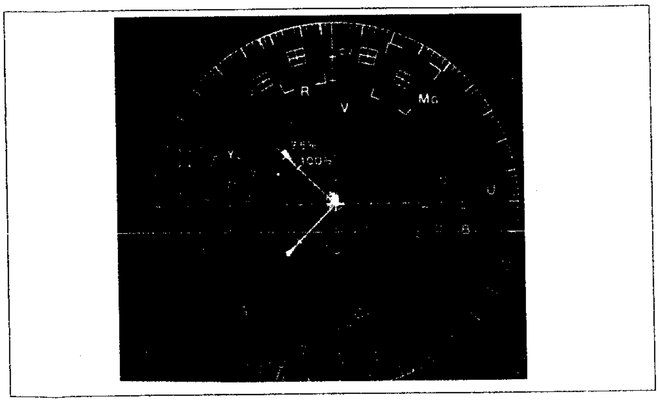


Fig. C12 (WHITE BALANCE/INDOOR)



ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
5-14 COLOUR PHASE & GAIN (INDOOR)	Colour Bar-Chart	Video-Out on Vectorscope	Be sure to carry out the Indoor White-Balance Adjustment befor doing this adjustment. ① Shoot the Colour-Bar Chart. ② Connect the Video-out to Vectorscope.	R-Y Gain CMD 3 8 ADR 4 9 INC or DEC R-Y Phase CMD 3 8 ADR 4 B INC or DEC B-Y Gain CMD 3 8 ADR 4 8 INC or DEC B-Y Phase CMD 3 8 ADR 4 A INC or DEC	RED-Vector GAIN :180±10% PHASE:104±3° (RED/BURST) YELLOW-Vector GAIN :130±10% PHASE:168±3° (YELLOW/BURST) Reference for RED & YELLOW Vectors are Burst Siganl. (To see Fig.C13)	When Vector Come to Spec Please Push followingKeys for data writing. SHIFT 2+B
5-15 WHITE BALANCE (OUTDOOR)	WHITE CHART with VFK0713 & VFK0716	Video Out Signal on Vectorscope	① Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716 ② White Set with White Chart SHIFT 1+4 (Confirm the vector comes to centre)	————	Centre of Vectorscope (To see Fig.C14)	Outdoor White Balance Data Writing SHIFT 2+6
5-16 COLOUR PHASE & GAIN (OUTDOOR)	Colour Bar-Chart with VFK0713 & VFK0716	Video-Out on Vectorscope	Be sure to carry out the Outdoor White-Balance Adjustment befor doing this adjustment. ① Shoot the Colour-Bar Chart. ② Cover the Lens with Colour Temperature Conversion Filter, VFK0713 & VFK0716	R-Y Gain CMD 3 8 ADR 4 9 INC or DEC R-Y Phase CMD 3 8 ADR 4 B INC or DEC B-Y Gain CMD 3 8 ADR 4 8 INC or DEC B-Y Phase CMD 3 8 ADR 4 A INC or DEC	RED-Vector GAIN :180±10% PHASE:104±3° (RED/BURST) YELLOW-Vector GAIN :130±10% PHASE:168±3° (YELLOW/BURST) Reference for RED & YELLOW Vectors are Burst Siganl. (To see Fig.C15)	When Vector Come to Spec Please Push followingKeys for data writing. SHIFT 2+C
5-17 DATA WRITING FOR COLOUR REPRODUCTION & WHITE BALANCE	————	————	① Confirm that Mode SW Position of EVR. A side :NV-RX1 SERIES ② Be sure to carry out the White-Balance/Colour Phase & Gain Adjustment befor doing this adjustment. (Indoor/Out-door mode)	Please Push following Keys. SHIFT 2+D Note: After adjusted the White balance & Colour Reproduction, (indoor/outdoor), Movie Camera(EEPROM) requeired other cpndition datas. Provide this data, EVR fixture calculated from indoor/outdoor datas and then enter the data into EEPROM automatically with above Macro Command.		

Fig. C13 (COLOUR PHASE & GAIN INDOOR)

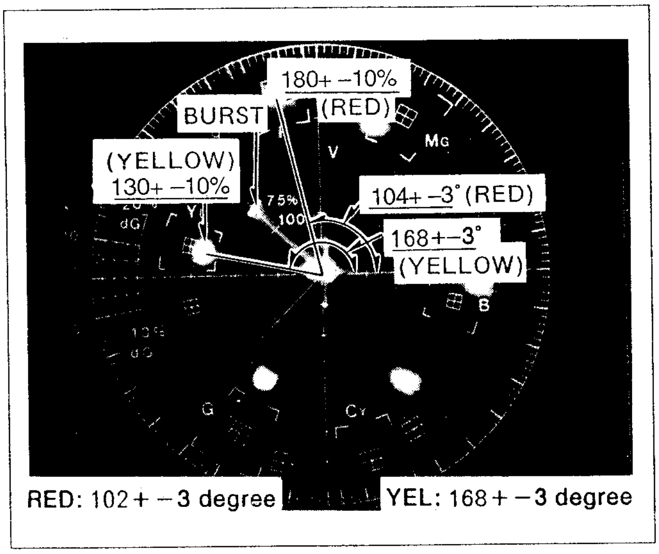

180+ −10%
(RED)
BURST
(YELLOW)
130+ −10%
Mg
V
75%
100
104+ −3°(RED)
168+−3°
(YELLOW)
B
G
Cy
RED: 102+ −3 degree
YEL: 168+ −3 degree

Fig. C14 (WHITE BALANCE OUTDOOR)

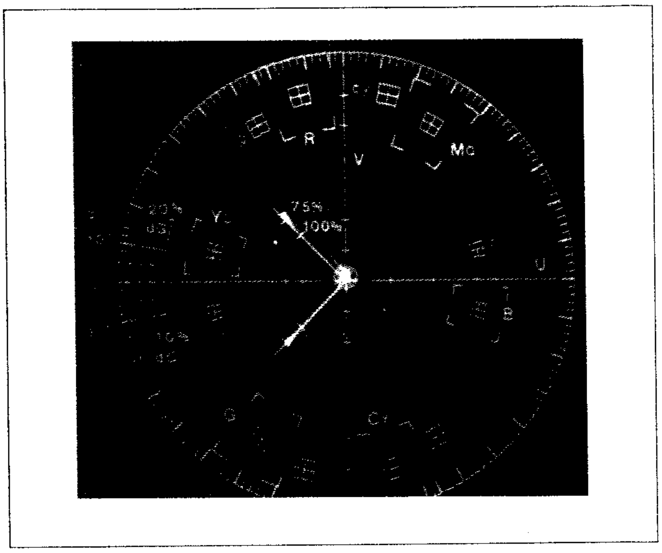
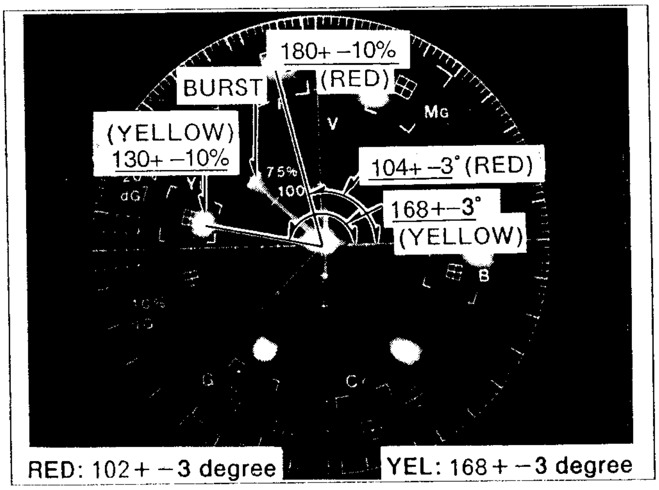

R
Mg
V
Y
75%
100%
U
B
G
Cy

Fig. C15 (COLOUR PHASE & GAIN OUTDOOR)


180+ −10%
(RED)
BURST
(YELLOW)
130+ −10%
Mg
V
75%
100
104+ −3°(RED)
168+−3°
(YELLOW)
B
G
Cy
RED: 102+ −3 degree
YEL: 168+ −3 degree

6. ADJUSTMENT FOR VTR-SECTION

ITEM	(1)SIGNAL INPUT or Test Chart	(2)TEST POINT	(3) CONDITION/PRESET With EVR or other	(4)HOW TO ADJUSTMENT EVR or VR	(5) SPEC	(6) HOW TO DATA WRITING WITH EVR
6-1 CHORMINANCE RECORDING CURRENT	————	TL5002 TL5001	① IRIS Close SHIFT 1 + 1 ②Connect the jumper-wire between TL3003 & GND for Eliminate the Luminance Recording Current ③Connect oscilloscope to TL5002(HOT), TL5001 (GND).	CMD 4 8 ADR B C INC or DEC	Signal level at TL5002 is 12mV±2mVp-p (To see Fig. D1)	CMD 1 2 ADR A B SET
				After adjustment, push the following keys. SHIFT 1 + 3 Iris return to Auto. And then Turn OFF & ON the Power Switch.		
6-2 LUMINANCE RECORDING CURRENT	————	TL5002 TL5001	① IRIS Close SHIFT 1 + 1 ② Connect oscilloscope to TL5002(HOT), TL5001 (GND).	CMD 4 8 ADR B D INC or DEC	Signal level at TL5002 is 110±4mVp-p (Sync tip Level) (To see Fig. D2)	CMD 0 2 ADR A B SET
				After adjustment, push the following keys. SHIFT 1 + 3 : Iris return to Auto.		
6-3 PG SHIFTER	Reference Tape	Video-Out PP3001-10	①Connect the oscilloscopeto Video-out & PP3001-10 ② Playback the reference tape	CMD 3 8 ADR C A INC or DEC	Video-Out = 6.5 ±0.5H (To see Fig. D3)	CMD 1 2 ADR A E SET

Fig. D1 (CHROMA REC CURRENT)

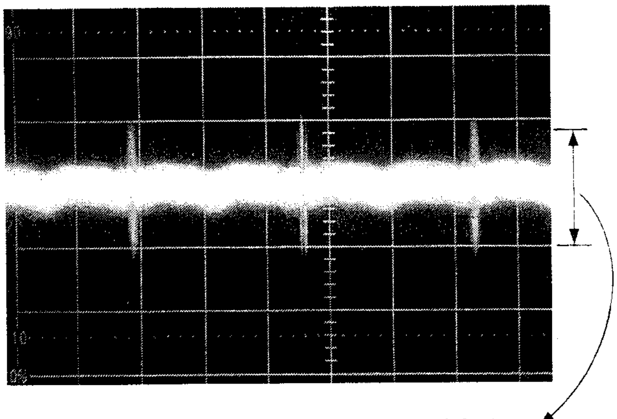
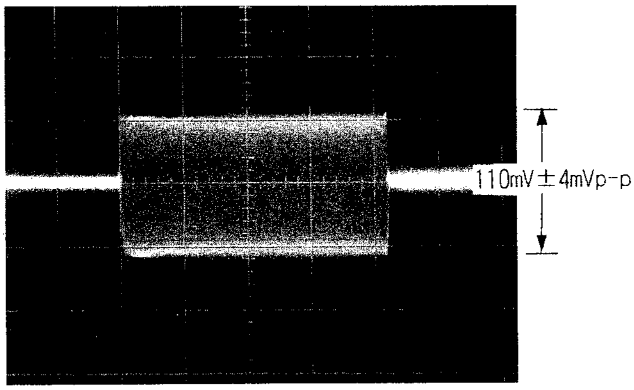
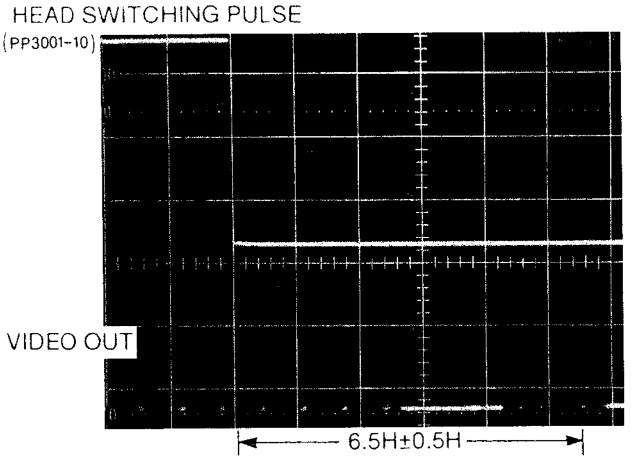

TL5002 is 12mV ±2mVp-p

Fig. D2 (LUMINANCE REC CURRENT)



TL5002 is 110±4mVp-p

Fig. D3 (PG SHIFTER)



7. E^2 P.R.O.M ADDRESS & DATA

Note:
*Fixed data for NV-RX1EG and NV-RX1A/B/EN/ENH are slightly different.
Also, Fixed data for NV-RX2EG and NV-RX2A/B/EN/ENH are slightly different.
(Please refer to comparison chart.)

The E^2 PROM address of NV-RX1EG and NV-RX1A/B/EN/ENH are completly same.
Also, the E^2 PROM address of NV-RX2EG and NV-RX2A/B/EN/ENH are completly same.
However the data is different according to the models.

(Automatic Writig)

1. Confirm that ROM of EVR has been replaced with the new one(Part No. : VFK0701ROM32)
2. Confirm that Mode Select switch position of EVR according to Model No. as follows.
3. Depend on the models, Push commands(0, or 1) right away after pushing the RESET key.

RESET +0 ⇨ NV-RX1EG
RESTE +1 ⇨ NV-RX1A/B/EN/ENH
RESTE +2 ⇨ NV-RX2EG
RESTE +3 ⇨ NV-RX2A/B/EN/ENH

4. When the pushing the above commands, Fixed data & average data write in to the E^2 PROM.

Purpose:
When replacing the main C.B.A and IC6004,
Fixed & Average data must be written.

Symptom of Mis-entered data:
Picture will not appear or will not work correctly.

Note:

Write fixed data and average data only when replacing the E^2 PROM or Main C.B.A or when data was destroyed.

Comparison of Fixed data

Model No & EVR mode SW	NV-RX1EG (A-SIDE)	NV-RX1A/B/EN/ENH (A-SIDE)	NV-RX2EG (A-SIDE)	NV-RX2A/B/EN/ENH (A-SIDE)
Command for Fix & average data	RESET + 0	RESET + 1	RESET + 2	RESET + 3
EEPROM Address	Data for Each ADDRESS			
#1 8B(low)	80	94	80	94
#2 ED(low)	01	02	01	02
#3 F4(High)	52	52	92	92